



Propitious time the



naval art enlightens



Sailing Directions
for
The Kattegat
to be used
with
the new improved Chart

containing
Descriptions of the Lights, Soundings, Grounds and Shoals,
together with
Plans of several Harbours, Prospects and Views of Land
published

from
the Royal Danish Marine Archives
for
Draughts and Charts

by
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and
F. R. D. S.
translated

from
the Danish Original
by

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and
Translator.

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P r e f a c e
to
t h e T r a n s l a t i o n .

As the Sailing Directions for the Kattegat lately published in the Danish Language, contain so many important and useful Instructions for Navigators, which even to the most experienced were hitherto entirely unknown, it is likely that the Danish Original soon would be translated into the English Language, this Nation having so considerable a Commerce on the Baltic. But as it is at the same time as probable that this Work might be undertaken by somebody or other not thoroughly acquainted with the subject, but only for the mere Profit of the Enterprise, the Author has been of the Opinion that it would be more acceptable to English Navigators if he procured a Translation of his Danish Original here, and under his immediate Inspection, preferring a literal Translation in a simple and plain Language as the better intelligible to Seamen, to a more elegant; he has allowed himself some few Deviations from the Original for the Convenience of the English Reader, no essential Part of the Work however has thereby been omitted, but on the Contrary even such things inserted as might seem superfluous to English Seamen, for an Instance the mi-

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nute Description of several Parts of the Danish shore frequented only by small coasting Vessels, so that the Translation is so far from being inferior to the Original, with Respect to Compleatness, that it even is superior to it, as several Observations made after the Danish Original was printed will be found inserted here. As a Work of this Nature always admits of Improvement, the Author assures the Public that the greatest Care shall be taken in collecting all these for a future Edition, adding that every authentical Information to this Purpose will be received with the greatest Satisfaction.

In the following Directions the Author has advanced nothing as certain, but such, for which he has unquestionable Authority — on the contrary where these have been wanting, for an Instance of several parts of the Swedish Coast, he has informed the Reader that the Accounts are only founded on mere Relations but

Multa, dum perpoliuntur intereunt.

As these Sailing Directions accordingly by Degrees will be improved, in the same manner the Chart to which they serve, will be improved too; thus some additions have been made in the first Chart of the Kattegat that was printed for the royal Archives in the Year 1799; for which Reason the Author advises the English Navigators to use that Chart to this Description on which the Year 1800 is found, and thus always that of the latest Edition.

As it would be too expensive and laborious a Task to engrave new plates as well of the Chart of the Kattegat itself as those of the different Harbours etc. only for having the Names in English and it with Respect to the Names of places is always more proper to keep the National way of Spelling it, tho' perhaps pronounced in a different Manner, the Author has made Use of the Danish Charts to these Directions, having on such places where it was thought necessary, not only given a plain and full Description of the meaning of the Word

but adds here an English Translation of such Danish Words and Abbreviations as will be met with partly on the Chart partly in the Direction.

Abbreviations.	Danish.	English.
	<i>Anker-Plads</i>	<i>Anchoring Place</i>
	<i>Bierg</i>	<i>Mountain</i>
	<i>Bugt</i>	<i>Bay</i>
	<i>Fjord</i>	<i>Gulph</i>
<i>Fd.</i>	<i>Fod</i>	<i>Feet</i>
	<i>Fortoninger</i>	<i>Views of Land</i>
	<i>Fyhr</i>	<i>Light</i>
<i>G.</i>	<i>Gaard</i>	<i>large House</i>
<i>Gr.</i>	<i>Grund</i>	<i>Ground</i>
	<i>Havn</i>	<i>Harbour</i>
	<i>Holm</i>	<i>a small Island</i>
	<i>Höi</i>	<i>Hill, Hummock</i>
	<i>Huus</i>	<i>House</i>
	<i>Indløb</i>	<i>Inlet</i>
	<i>Kaart</i>	<i>Chart</i>
<i>K.</i>	<i>Kirke</i>	<i>Church</i>
	<i>Kyst</i>	<i>Coast</i>
	<i>Landstrækning</i>	<i>Extent of Coast</i>
	<i>Længde</i>	<i>Longitude</i>
	<i>Leer</i>	<i>Clay</i>
	<i>Lodskud</i>	<i>Soundings</i>
	<i>Løb</i>	<i>Channel</i>
	<i>Mil</i>	<i>Mile</i> (one Danish is 4 English)

but all Distances occurring in this Work are expressed by english Miles and Leagues.

Abbreviations.

Danish.

English.

Sd.

*Mölle**Mill**Ost**East**Öe**Island**Rehd**Road**Rende**Channel or narrow Passage**Rev**Reef**Sand**Sand**Skær**Rock* (as well under as above the surface of the Water.)*Sund**Sound**Taarn**Tower**Varde**Beacon**Vig**Creek*

The Soundings are marked in Fathoms, those excepted, to which is joined Fd. (Feet). A Fathom consists of 6 Danish Feet, which are a little larger than the English; the Proportion is about 28 to 30.

I n t r o d u c t i o n .

From the earliest Time of Navigation, the most skilful and boldest Seamen have considered *the Kattegat* as one of the most difficult Passages that exists, and which required the utmost Attention and indefatigable Carefulness to pass safely through, of which the Loss of so many Vessels is an evident Proof; this might certainly in a great Degree be attributed to the violent, irregular and unaccountable Settings of the Currents, but the Difficulties were undoubtedly highly encreased in former times by the Imperfection nay absolute Incorrectness of the Charts. It is certainly the Case that the imperceptible Influence of the Current may very often contribute to the Uncertainty of the Dead Reckoning and involve the Navigator in some or other unexpected danger, but it is at the same Time as certain that the Consequences of the Incorrectness of the Charts very often have been attributed to the Current.

On the one Side of *the Kattegat* the Coast and Islands are surrounded by flat Grounds and Reefs, extending far from Shore, nay even in the Middle of the Fairway there are Grounds and Shoals which are dangerous particularly for large Ships, and on the other Side along a Part of the Swedish Coast there is a number of Islots and Rocks as well above as under the Surface of the Water, the most proper and frequented Passa-

ge through the *Kattegat* is therefore very narrow, which even the Derivation of the Word *Kattegat* from the Dutch *Gatt* (a narrow Passage) seems to indicate, besides there are but very few Harbours in the *Kattegat* that can admit of large Ships. The many and expensive Light Towers and Beacons however that in the Progress of Time have been constructed, and the Number of which successively is encreased, are undoubtedly of the greatest Importance to the Security and Conveniency of Navigation. The Author of the new Chart of *Kattegat* to which this serves as a Direction also flatters himself, that both will prove of essential Benefit.

In former Times there existed no other Charts of this important Passage but Dutch; this Nation which properly may be called the Nurse of Navigation, was the first that in the Middle Age, was sensible of the Utility of good Charts as well of this as all other Passages and Seas; but they were for a great Deal destitute of those Requisites necessary for producing Charts to any Degree of Exactness; viz astronomical Observations for the true Position of the most important Points and Headlands with Regard to Longitude and Latitude, and geographical Surveys of the Coast; as well as Soundings of the Depth and Shoals, which latter may be of the greatest Importance even in the Main Sea in Order to conclude the Position of the Ship, particularly in dark nights or foggy Weather, but more especially the Soundings are of the greatest Consequence by going through narrow Passages, either in or out of Harbours. These Dutch Charts were accordingly at that Time only constructed after the mere Relations of Seamen and such imperfect Observations as these sent to the Editors, which of course must differ widely according to the different Relations and the Imperfection of nautical Observations; the *Booksellers* or *Caartenvercoopers* who soon made it a Branch of mere mercantile Speculation contributed much to the Imperfection of Charts in General. In

England and France where Trade began to flourish were also Charts of this and other Seas published — but these were mere Copies of the Dutch and could be nothing else as neither they had any Means to improve them.

For the Swedish Nation it was of so much more Importance to be acquainted with this Passage as it borders on the one Side of this Country. They had however no Charts of the *Kattegat* before in the Year 1738 when Comodore *Strömkrona* published a Swedish Atlas of the Baltic to which was joined a Chart of the *Kattegat* on a very small Scale and quite incorrect; there is another Swedish Chart by *Jonas Hahn*, the Year in which it was published is not mentioned so that it perhaps may be older than the above mentioned; none of these however were much used by Seamen, which the Imperfection of them neither entitled them to; those that were most common were two Dutch, both very indifferent, the one published by *C. J. Voigt* in the Year 1690 and the other by *Brandaries* 1746. Those that paid more Attention to Navigation endeavoured to collect such Directions and Drawings in Manuscript as were to be got, among these latter I shall only mention one by Capt. *Villars* in the Royal Danish Navy, constructed in the Year 1746 after this Gentleman's own Observations; it is probable that the Author himself did not think it perfect enough to appear before the Public, nor was it ever printed; Copies of it were however procured and used frequently in particular by the Officers in the Danish Navy; Comodore *Acheleye* in the Year 1769, was the first in Denmark, who ever printed Charts of the *Kattegat* and in the Following Year he moreover published two Editions widely differing from each other as well as from the first, but being all very imperfect, no use was made of them. Meanwhile Mr. *C. C. Lous* Professor and Director for the Schools of Navigation, a Gentleman whose merits are universally acknowledged had endeavoured to collect proper Materials for a Chart

of this Passage; the Learned Swedish Professor *Shenmark* had communicated to him those trigonometrical Surveys which he had made in the Year 1761 from the Boundaries of *Norway* round the Swedish Coast to *Cimbrishavn* in the *Baltic*; accordingly in the Year 1773 Professor *Lous* published his large Mercator Chart of the *Kattegat* and a Part of the *Baltic* extending from *Ferder* in *Norway* to *Kiel* in *Holstein* and from *Eckernförde* in *Holstein* to *Carlsrona* on the Swedish Coast in the *Baltic*, and in the Year 1776 he published a particular Chart of the *Kattegat*, in which he had used the above mentioned Observations and every other Source of Information that possibly were to be procured at that Time; in the following Year 1777 a new Chart appeared from the same Author, containing *the Sound* and the two *Belts* *) with Part of the *Baltic* as far as *Bornholm* inclusive. Some Years previous to this, the Geographical Surveys of all the *Danish* Provinces had begun under the Direction of the Royal Society of Sciences, and most excellent Geographical maps were successively published. Hereby not only the true geographical position of the principal Headlands were determined but also the Outlines of these Coasts that surround *the Kattegat* ascertained. Professor *Lous* who had wanted this essential Assistance to his former Editions of his Chart of the *Kattegat*, published therefore a quite new and improved one in the Year 1790.

In the latter End of the Year 1784 the Royal Danish Marine Archives for Draughts and Charts were erected and in the Year 1791 His Majesty was pleased to purchase from Professor *Lous* the exclusive Privilege granted to him for the Disposal of his above mentioned Charts; His Majesty was farther pleased to order that these Charts should for the future be

*) *Belt* is the Danish Word for the two Passages the one between the two Islands *Siælland* and *Fyhn* and the other between *Fyhn* and the Main of *Jylland*.

published from the Archives on which it consequently was incumbent to improve and correct them. Though these Parts of the Danish Coast which surround the *Kattegat* were now almost correctly delineated by Assistance of the above mentioned Geographical Maps, there were still essential Improvements to be made to the sea Chart viz: the Correction of the Soundings and Position of some dangerous and partly unknown Shoals. In Consequence to this, the Board of Admiralty, on a Representation of the Archives, ordered in the Year 1791 a Vessel to be fitted out and appointed Capt. *Harboe* in the Navy Commander with Instructions to examine the Shoals in the *Kattegat* and settle the Position of them. Meanwhile two Ships had at different Times, by accidentally sounding in fair and calm Weather discovered a hitherto unknown Bank between *Anholdt* and *Warberg* on some places of which no more than 19 Feet of Water were found, Capt. *Harboe* therefore received Orders to make the Examination of this Bank the first Object of his Expedition and the late deceased Mr. *Lindholm* Lieutenant in the Navy was ordered to join him in another small Vessel for the easier and more completely to accomplish this Examination. After the Account given by Capt. *Harboe*, who at the same time had determined the true position of the Island of *Anholdt* and the Extent of the Reef running East out from it, the above mentioned Bank was laid down and the Position of the Island of *Anholdt* duly corrected in Mr. *Lous's* Chart then in use. Capt. *Harboe* continued his Observations during that and the succeeding Summer and determined the exact Position of several isolated Banks and Grounds, for Instance *Hasteensgrund* and *Muldbierggrund* on the Coast of *Jylland* etc. and the very remarkable Soundings between *Anholt* and *Lessöe*.

During the same Years Capt. *Stub* of the Navy was ordered to make Surveys of certain parts of the Coast which likewise contributed a great Deal to correct the Charts particularly with Regard to the Soundings

Shoals and Grounds which are on the East and North Side of the Island of *Samsöe*. The Examination of the *Kattegat* was continued in the Year 1795 by Mrs. *Ebbesen* and *Rafn* Captains in the Navy and in the following Year by Capt. *Rafn* and Lieutenant *Bardenfleth* in two small Vessels. The Information drawn from these Expeditions, together with other Materials collected from different Sources have been used to the Improvement of this new Chart and Direction.

In *Sweden* Geography has of late been enriched by very good Charts particularly by a most excellent Atlas of the *Baltic*; the first was that of the *Kattegat* which appeared in the Year 1783, the latter Editions of which have been improved by the new Discoveries; one Objection might perhaps be made against this Chart (tho' a very good one) which is, that as it contains the whole Coast of *Sweden* to the Limits of *Norway* together with the whole Inlet up to *Christiania* in *Norway* *), the Scale of the very *Kattegat* is but small and only half as large as on the Danish Chart. On this *Swedish* Chart there are also particular Plans of the Entrance of several of the Harbours on the *Swedish* Coast and Views of Land, which together with others have been used in these Directions.

After thus to have given an Account of the different Sources made use of to this present Work, the Author thinks it necessary to inform the Reader of the Order which he has followed for to render these Directions the more plain and intelligible; he supposes that the Ship is arrived to *Helsingör* (*Elsinore*) from the *Baltic* or *Copenhagen* and intends to go northward through the *Sound* and *Kattegat* running close along the

*) When the Surveys along the Coast of *Norway* are finished, it is the Intention to publish a particular Chart of the Track between the *Kattegat* and the Coast of *Norway*.

Swedish Coast he accordingly gives first a Description of this latter with it's Anchorages, Harbours etc. where a Ship may find Shelter, mentioning the Beacons, Lights Houses etc. on it, supposing after this that a Ship sails out from *the Sound*, keeping the middle way, he describes the Soundings, Shoals, Banks etc. on this Track which lies between the *Swedish Coast* and *Anholdt* and *Lessöe* together with the Soundings round this latter Island; Lastly he gives the Description of the Coast of *Jylland* from *Skagen* downwards etc. It is easy to conceive that it is impossible to give such Directions as will suit to every possible Case and under all occurring Circumstances, but the attentive Navigator who beforehand has perused and reflected on this Description will know how to make use of it according to the Situation in which he is — neither does the Author flatter himself with having produced any thing perfect in it's Kind, notwithstanding he has carefully used all the good Sources that were to be obtained, but on the contrary will think himself much obliged for every Kind of Information with which he may be honored and assures the Public of paying the utmost Attention to the same for the further Improvement of this Work.

The Author has not ventured to give any Account at all of the Settings of the Current in *Kattegat*, as this depends upon so many local Circumstances, which in a short Distance are very variable according to the Situation of the Land, Islands, Shoals etc., the Force and Direction of the Currents may also be owing to the Weather and Wind, not only existing on the Place it self, but perhaps may be influenced even by those Winds prevailing at the very Moment in the North-Sea and Baltic, so that the Observations that might have been made on this Subject were scarce compleat, and much less to be relied upon; Finally it must be observed that the Author has deviated from laying the Points of the Compass after the true North which undoubtedly otherwise is the right Manner

but on the contrary after the Variation of the Needle, having been induced to this for the sake of the common Seaman to whom it is more convenient to see the same Course on the Chart than that which the Compaſs indicates. During a Series of Years the Variation of the Needle will make no considerable Difference and before this will take Place another Edition will certainly be published. The Variation of the Needle is at preſent at little above 18° at *Copenhagen* and 19° at *Skagen*. The Points of the Compaſs have therefore been laid down after the $18\frac{1}{2}^{\circ}$ N. W. Variation. It ought however to be obſerved that the ſmall Charts of the Harbours joined to the Direction, are laid down after the true North; all the Courses and Obſervations however in this Work are mentioned after the preſent Variation of the Needle.

T h e S O U N D .

When you come from the *Baltic* passing *Dragöe* through *Drogden*, or you come from *Copenhagen* and are bound for *Helsingöer* (*Elsinore*) You may if you chuse be provided with Pilots from any of the two above mentioned Places. The Anchorage in the *Sound* is known to be an open Road but the Bottom being clear and good, it is safe enough for such Vessels that are provided with good Anchors and Cables, you may anchor almost every where you please, the Bank however called *Diskén* is to be preferred particularly by large Ships, there being 5 Fathoms of Water, when you have the Tower of *Helsingborg* in 60° from N. to E. and the highest Steeple of *Cronborg* 6° from N. to W. and thus there will appear a small Opening between the Point of *Cronborg* and the opposite Shore of *Sweden*. *)

When it is late in the Autumn, it is not safe to go out of *the Sound* unless the Wind is so favorable that it may be expected to carry you entirely through the *Kattégat*; for notwithstanding it appears when you look at the Chart that a S. S. W. Wind nay even S. W. is a very large and fair Wind for getting through *the Kattegat*, still you risk very much by going out with these Winds at a late Season of the Year — for commonly as you proceed further up, you get the Wind more and more to the

*) A View of this is the first on the Plate G.

West so that when you come up towards *Læssøe* or *Skagen* and even sometimes before, you will find the Wind W. S. W. or more to the West which will prove a scanty one to both Sides, and by an encreasing Gale you are exposed to get a Lee-Shore. On this Season of the Year therefore a Southerly Wind can not be depended upon unless it has some Hang to the East.

In the Year 1771 two Light Houses were erected on *Nakkehoved* on the Coast of *Siælland* and a Lamp Light placed in the North East Tower of the Castle of *Cronborg* *) but several circumstances occurring occasioned that they did not burn for a longer Time than three or four Months. His Majesty the King of Denmark has however most graciously been pleased in this Year to order the Re-establishment of these Lights and accordingly on the 13th of April they were lighted again and are to burn constantly for the future. By the first Erection of these Lights Commodore Lous was ordered to make a Chart for entering *the Sound* by Night after these Lights which may be very useful by Day too. **) Notwithstanding it is very correct still it has been lately discovered that the Ground athward *Gilleleye* runs a little farther out than what has been laid down on the Chart, and that there are two Shoals on it, the one of which having 20 Feet of Water bearing N. 16° W. distant about 2 Miles from the East Light on *Nakkehoved* and the other on which there is only 13 Feet bearing N. N. W. distant scarce 3 Miles.

As a farther Security for Navigation properly instructed and examined Pilots were appointed in the Year 1798 in the fishing places *Gilleleye*

*) It may be proper to observe that the Westernmost Light on *Nakkehoved* is 143 Feet the other 73 and the Lamp Fire on *Cronborg* 110 Danish Feet above the Surface of the Water.

**) This Chart is well known and may be had at *Elsinore* in the Shop for Charts; the above mentioned Shoals will be marked in all the Copies that are to be delivered out for the future from the Archives

and *Hornbeck* who, when Signal is made for them will attend the Ships. Let the Charts be ever so good still it is difficult nay often dangerous particularly with an unfavorable or right contrary Wind to work into a Passage where the Current is so strong and very often quite irregular.

T h e K U L L - P O I N T .

and

the Light upon it.

It is perhaps no superfluous Remark for a ship that comes from the North and is bound to *the Sound* that Care must be taken, particularly in hazy Weather, not to take the *False Kull* or *Hafskullen* lying East to *Hallands Wæderöe* for the real Promontory of *Kullen*; tho' the Mountains by *Hafskullen* are more flat on the Top and have a larger Extent than the *Kull*; on this the Church called *Hoff* is situated pretty high and is white, the Church called *West Karup* is likewise remarkable, still the former is higher; but before you came near enough to see these plainly, the Sight of *Wæderöe*, *Toreko* Town etc. ought to clear up the Mistake; but as soon as you get sight of the Light House on the *Kull* there can be no Mistake at all.

It has been observed and pretended with some Foundation that the Clouds which very often hide the Tops of the Mountains and change their Appearance, may drive as low as to conceal the Light and it has farther been pretended that the Vapours ascending from the Earth, some times cause the Light on the *Kull* to be less clear and distinguishable, a circumstance, which by Lights thus situated, requires the greatest Atten-

tion; but there is still another Circumstance, not less important which ought to be taken Notice of as well by this as by all other Coal Lights viz, as these burn in the open Air without being inclosed or surrounded by a Building with Windows, *) the Consequence will be that when it blows a fresh Gale, the Flame of the Fire will be thrown in a Horizontal Direction by the Wind; this will absolutely be the Case with the Light on the *Kull*; when You with a North or North Westerly Wind bear right upon it, you will hardly perceive any flame at all, before You with Respect to the Wind are athwart of it, and you consequently see the whole flame. It must be observed that the Light on the *Kull* like all the other Lights on the Coast of *Sweden* are not lighted during the Summer Season, that is to say from the first of May until the first of August but all those on the Coast of *Denmark* burn through the whole Year; from Michelmaes till Easter they are lighted half an hour, and from Easter to Michelmaes one hour after Sun-Set and continue burning till Day Break.

S K A L D E R V I I G.

The Bay of *Skalderviig* runs in between the *Kull* and *Hafskullen*. If you have happened to come in so far as to be forced to come to an Anchor, it will be necessary to proceed till you have no more than 7 or 8

*) By the two Fires mentioned pag 16 lately erected on *Nakkehoved* on the Coast of *Siælland*, which are also Coal Lights, the following Contrivance has been made. A Building with Windows surrounds the Fire on every Side except that turning towards Land, where there is a Wall, the Inside of which is covered with polished Brass; by this construction the Fire will certainly be seen more bright and of course is highly to be preferred to those that are exposed to the Effects of the Winds.

Fathoms of Water, the Ground not being safe Anchorage farther out. In the Bottom of this Bay a small Town called *Engelholm* is situated, it's Commerce is but inconsiderable as it has no Harbour but those small Vessels which are to load or unload run into *Grytehavn* a small Harbour on the East Side of the Bay, distant 4 or 5 Miles, where the Depth is said to be from 6 to 7 Feet, and so safe that such Vessels may lay there during Winter.

The Island HALLANDS WÆDERÖE.

and

the Anchorage within it.

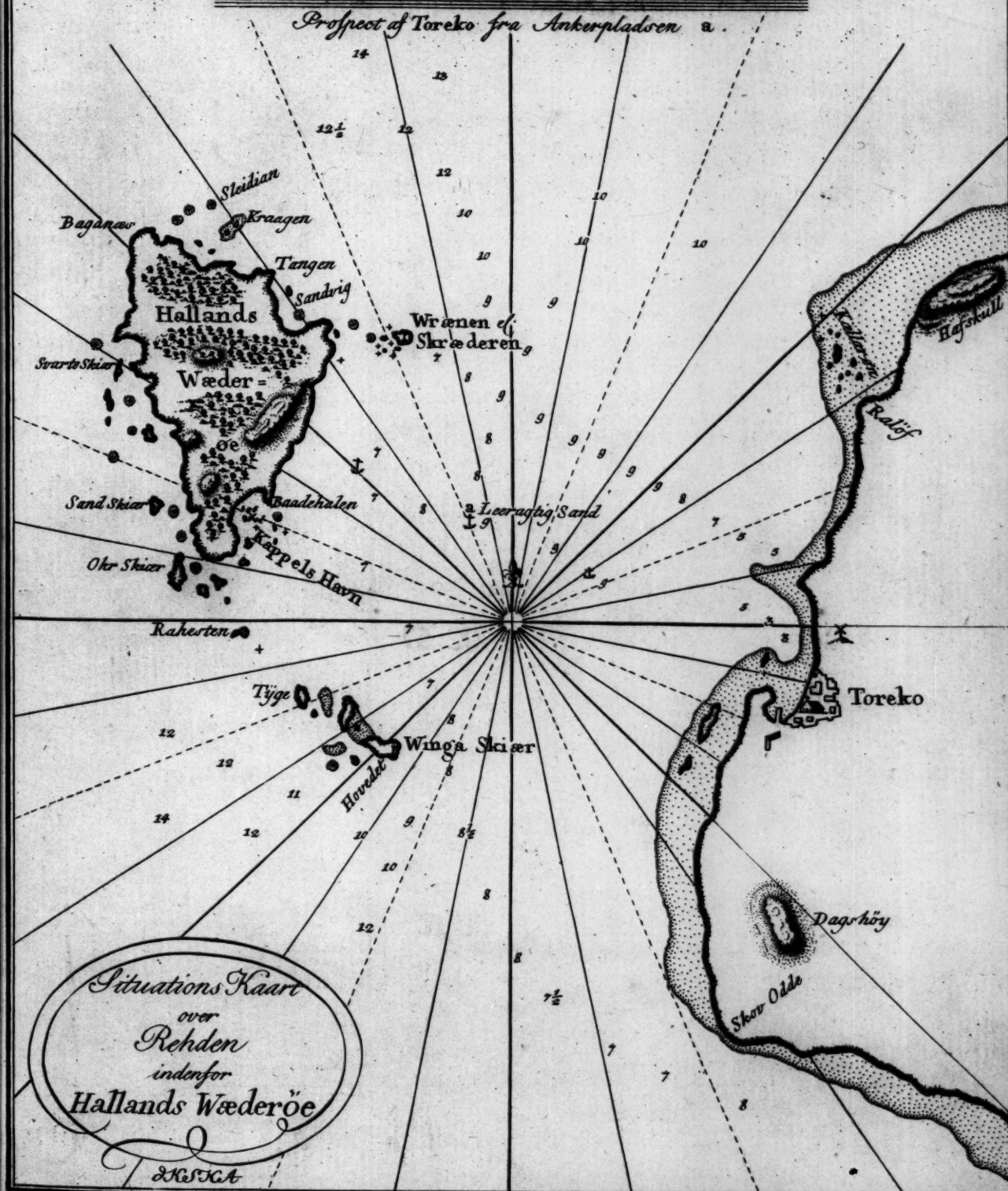
Vide Plate **A.** and **B.**

If you happen by entering the *Sound* to get a hard westerly gale and can not double the *Kull*, the Keeping under Sail during the Night will be attended with a great Deal of trouble nay even Danger it would then certainly be more proper to bear down for *Hallands Wæderöe* between which and the Town of *Toreko* a good Anchoring Ground will be found for Ships of all Sizes; the Road is of easy Access vid Plate *A.* Plate *B* is a View of *Wæderöe* taken from the best Anchoring Place. You may enter or go out at which Side of the Island you please. On the two Rocks *Winga Skær* and *Wrænen* Beacons *) are erected consisting of a wooden Pole with an Arm pointing towards East to denote that you are to pass to the East of these Rocks, to which you may come up very close; the best Anchorage is in the Line running from the highest Top of *Wæderöe* to the Church of *Toreko* or with other Words you are to bring the highest Part of *Wæderöe* in N. W. on the Compass. In this Direction you will have 7 Fathoms of Water nearer to *Wæderöe*, but more towards *Toreko* 9 or 10 Fathoms. The Bottom is Sand mixed with Clay.

On entering the North Passage two black Rocks appear to lie in the

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*) For a Representation of these Beacons see plate B. These Kinds of Beacons are used on more places of the *Swedish* Coast and will be mentioned in the Course of these Directions; the projecting Arm always points to that Side of the Rock or Reef on which you are to pass them.



Ark: Newport



Afbildning af Wårderne paa
Wingaskiær og Wranen.

Landet inde i Engøllholms Bugten

Winge Skiær

Kullens

Pijlr Taarn

Pige Skiær

Rahesten

Portoningen

fra den bedste Anker =

B

ker.^B = Plads inden for Hallands = Wæderöe
Wæderöen

Kappels Havn



Sande Nord

7½ Favn, leeragtig Sand

Wæderöen
Sande Nord

fair Way, but having passed *Wrænen* you will observe them to be of no Consequence, being situated close under the Coast by *Toreko*.

On the South End of *Wæderöe* there is a small Harbour called *Kappelshavn* having only 6 or 7 Feet Water where small Vessels may lay up during Winter. There is still another Passage between *Tyge* and *Rahesten* but in Order to proceed thro' this, you must be well acquainted; the Way is to keep $\frac{1}{3}$ of the Passage from *Rahesten* and $\frac{2}{3}$ from *Tyge*.

The Reef running out from *Ralöfpynt* by *Hafskullen* called *Kællarön* is for the most part conspicuous above Water; on standing out through the North Passage particularly in tacking you ought not to approach the Coast by *Hafskullen* nearer than till you get *Winga Skiær* a little within or more easterly than the Light Tower on *Kullen*.

When the Current sets northward here in this Road, it generally runs the contrary Way in the Bay of *Laholm* and thus the reverse when northerly in the Bay it will prove southerly on the road.

On the West and South Side you may with safety approach the Island of *Wæderöe* to the Distance of a Mile notwithstanding that the Sea with a Northerly Wind seems to be full of Breakers at the Distance of 2 Miles from the shore, the Bottom being rocky and uneven but there is sufficient Depth.

It is difficult to take in Water at *Toreko*; and on *Wæderöe* there is no Water at all which is the Reason why this Island is uninhabited. It is overgrown with low Trees and Bushes.

LAHOLM'S BAY.

In this Bay the Bottom consists of Clay covered with about 3 Feet thick Sand; it is often the Case particularly with a hard Westerly gale that Vessels are forced to anchor here. The Holding Ground being good, large Ships that are provided with good Anchors and cables may safely ride out a Storm notwithstanding the Sea runs very high, in this Case you ought to come to an Anchor within the Line between *Hallands Wæderöe* and *Tylöe* on 10 Fathoms of Water the Depth Lessening by Degrees towards the shore.

Both by *Laholm* and *Halmstad* two small Rivers are running out into the Sea, the sand which they carry along as well as that which the Sea sets in with Westerly Wind alter the Situation of the Channels so much that Vessels which are to load or unload at these Places must ride on the open Road and convey the Goods to or from shore in Boats or small Lighters. At *Halmstad* however the Entrance has commonly 4 Feet and within there is 7 or 8 Feet with ordinary Water and occasionally with high Water more.

The Coast from TYLÖE to WARBERG.

From *Tylöe* to the Point of *Moruptunge* you may every where approach the Coast about the Distance of two Miles; on the Top of the Hills named *Vildshäradshöy*, *Nyrsaas*, *Henningeberg*, *Smörstakken*, *Nyklawarberg*, and *Himmelskullen* small stone Beacons are erected in the Form of Pyramids. Of the Hill *Smörstakken* a View is given on the Plate G, the single Tree that stands upon it renders it very conspicuous, this Mark however is but a temporary one, the Church in the Village *Sönrum* has got a white Tower, and *Falkenberg* a pretty high Steeple and is besides a Town.

The Reef by *Moruptunge* is not dangerous the Rocks being commonly above Water — there is moreover a white Cliff on the Coast which renders it conspicuous; *Morup* is a Village by which stands a Wind-Mill and has a red painted Church with a Steeple. Along the Coast between this and the Village *Utrost* the Ground extends somewhat farther out and is called *Bergsrev*.



The Castle and Town of *Warberg* whereof the Prospect above is given, is one of the most conspicuous Objects on the *Swedish Coast* in the *Kattegat*, the Harbour there is but inconsiderable having no more than 3 Fathoms of Water on the deepest places so that Ships of 13 to 14 Feet Draught are perhaps the largest that ought to venture in there.

When you come from the South and intend to make this Port, you ought to look out for the two Rocks called *Svartskiær* which are lying near the Shore by *Næs* the southermost of which is of a brown or reddish Cast, but the northermost is quite black; you may pass close up to them and steer directly for the Castle within the *Svartskiærs* there is said to be a Harbour for small Ships the Depth being only 7 Feet. The Rock which is called *Sæluklippen* and lies beneath *Apelvikshöy*, *) is always

*) *Apelvikshöy* is a hillock, on which a small Beacon is erected see the Prospect Plat. G. .

visible above Water it is said to be possible to pass between that and the Shore but the fair Way is to go close up to it on the west Side.

In entering the Harbour You must take Care to keep two third of the Breadth of the Offing from *Skrivervklippen* (this is an Islet upon which stands a small white House with a red Tatch) that remains on Larboard Side, and keep one third or rather nearer to the Side of the Castle, whereby you avoid several Shoals and sunken Rocks that surround *Skrivervklippen*. The Anchorage is athwart the Town the Depth very uneven, the Bottom for the most part fine grey Sand and on some few places rocky.

Coming from the North or West you must bring the Town Church, which is white and has a black Steeple a little to the East or South Side of the Point of the Castle and keep this Course until You are within *Skrivervklippen* and then following the above given Directions You steer into the Harbour. As this Harbour is open to S. W. by S. the Wind from this Quarter raises some swell.

No Water is to be got in the Town, but must be procured at the Distance of about a Mile up in the Country.

KLOSTERFIORD and HERTERNE.

According to Report there is Anchorage for Vessels of 7 or 8 Feet Draught in the Bay called *Klosterfiord*.

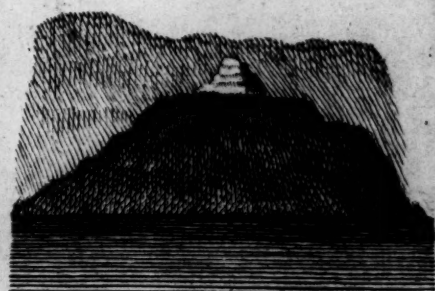
Farther within the Islands called *Herterne* which are very easily known, there is said to be 5 Fathoms Water so that it should seem large Ships might find Shelter there if it were not for the Ground which is said to be unsafe, no Pilots are to be had on this Part of the Coast, nor are the Directions, if there really exist any, known in General.

5 00 57

med Havnene og Ankerpladserne paa Kysten fra
Baatefiord til Lerkul.

Afbildning af Markerne til Inddeilingen til Kongsbacka og Onsala Harne.

Ravnöe



Steen Varden kalket.



Fortoning af  Niddinggen

a. et Huns. b. Klokketaarnet peilet i O. S. O. $\frac{1}{2}$ O. p. Comp. $1\frac{1}{2}$ Mil. c. c. Höyene hvor Fjhr-Panderne staae paa.

KONGSBACKA FIORD and the Anchorages

from

BAATEFIORD to LERKIL.

Plate C.

Baatefiord is only a harbour for Ships of 7 or 8 Feet Draught these may enter on either Side of the Islet called *Gylten* which lies in the Offing, the Colour of it is red and it is the Southermost of the Rocks called *Laskiærne* *). Within the Island *Wendelsøe* Ships to the Draught of 14 Feet may find Shelter, the Entrance is on both Sides, but the Bottom is reported not to be good for Anchoring.

The little Island *Niddingen* has two coal Lights on it, **) which stands on Two Hillocks c, c, their Direction from one another is 35° from North to East or from South to West on the Compass. By Day this Island is very easily known by a Tower b, painted red, and likewise a large red Houses close to it, in the Tower there is a large Bell with which is rung in foggy Weather but it is much to be doubted whether this is of any real Service as Ships in the most dangerous Situation, viz being to the Windward can not possibly hear the Sound.

From *Niddingen* two Reefs are running out the one to the S. W. which is scarce a few hundred Yards long; the other called *Lilland* extends about a Mile to the East on this the Sea breaks constantly with the least Wind.

*) The adjoined Plan is taken from that which is on the *Swedish* Chart of the *Kattegat*, and improved after authentical Information.

**) These, as has already been observed, are not lighted from the first of May until the first of August.

The Harbour in *Kongsbacka Fiord* is a most excellent Place of Shelter in Case of Necessity there being both Depth and Room enough for Numbers of Ships and very easy of Access; following the Directions of the adjoined Plate you may pass close on either Side of *Niddingén*; if you are on the East or South Side of it and with an open Wind would steer in to *Kongsbacka Fiord*, the best leading Mark is to bring the Beacon upon *Halsunds Odde* and *Onsala Church* in one and keep this Course until you are pretty near the Offing. Besides these here are several very good Marks and Beacons, which in Order to make them easier known are represented at Large on the Plate; on the Headland *Fierhals* is a single Stone Pyramid; upon the Island *Malöen* three pyramidal Stone Heaps are erected; on the Point called *Halsunds Odde* stands a remarkable Beacon with a Ton on the Top; on the Rock called *Fiolskiæret* there is such another Beacon as that by the Entrance to *Hallands Væderöe* represented on Plate *B*. *Onsala Church* is very remarkable and may be seen from a Distance of about 7 Leagues; on *Ravnöe* there is a Stone Pyramid which is kept white; by the Direction of these Marks it is very easy to bear up for this Harbour tho' you were forced to work in with a contrary Wind. The Bottom is in general clay and Mud gently decreasing. The best Anchorage is athwart *Onsala Church* in 12 or 8 Fathom Water.

The watering Place is in a Creek by *Gaatskæl*, where also small Vessels may lay up with security during Winter.

Between *Malöe* and the Beacon on *Halsunds Odde* there is a good Anchorage in 10 to 12 Fathom Water known by the Name of *Malöe Sound* but Southerly Wind to which it is open sets a heavy swell in Notwithstanding this, Men of War and large Ships when forced to touch here, ought to prefer this to any of the other stopping Places hereabout as they may easily get out again.

Farther in there is an excellent small Harbour called *Skallehavn*, where the Depth is 4 to 5 Fathom Mud Bottom; Ships that have lost their

Anchors may save themselves by running a ground in the Mud, Rings are moreover fastened in the Rocks on both Sides for mooring, this Harbour however is so narrow that a large Ship after having let go her Anchor can hardly swing clear of touching the Ground.

On the other side of *Skaløe* there is also a very good but small Harbour called *Græsset* having only 4 to 5 Fathom Water; the Bottom is clay overgrown with a Kind of Sea-Weed and is a good Holding Ground provided the Anchor takes the Ground, which the Tickness of the Sea Weeds may often prevent its doing wherefore the Anchor must fall quickly down and not as is comonly used on board small Vessels to let the Anchor go softly without veering sufficient Cable at once. Within the Harbour there is more Room for large Ships than in the last mentioned, but the Entrance is exceedingly Narrow.

Mönstersund is only a Harbour for such Vessels that draw no more than 6 Feet and is moreover very narrow, during Winter small Vessels may lay here with safety. No Water is to be got at these last mentioned Harbours or stopping places but must be fetched from *Gaatskæl*. When You intended with a Southerly Wind to leave *Maløe Sound* or proceed out from any of the Anchoring places there about You may go within *Swartskiær*, *Rön*, *Kongen*, and *Bræka*, and from thence gain the Main Sea but in this Case however it is reported to be safer to go to the Northward of *Tislerne*, leaving them on Larboard Side but neither ought to be attempted unless You have Pilot onboard. In this Track there is generally 14 Fathom of Water, where in a Calm you might anchor if the Current should happen to be contrary it is however is not adviseable as the Bottom is rocky.

Between *Okkerøe* and the Headland *Fierhals* there is reported to be a good Harbour for Ships of all Size but difficult to get in or out except with an open Wind.

Farther, on the South Side of *Okkerøe* there is also said to be an Harbour but for small Ships, called *Diövig*. About a League to the

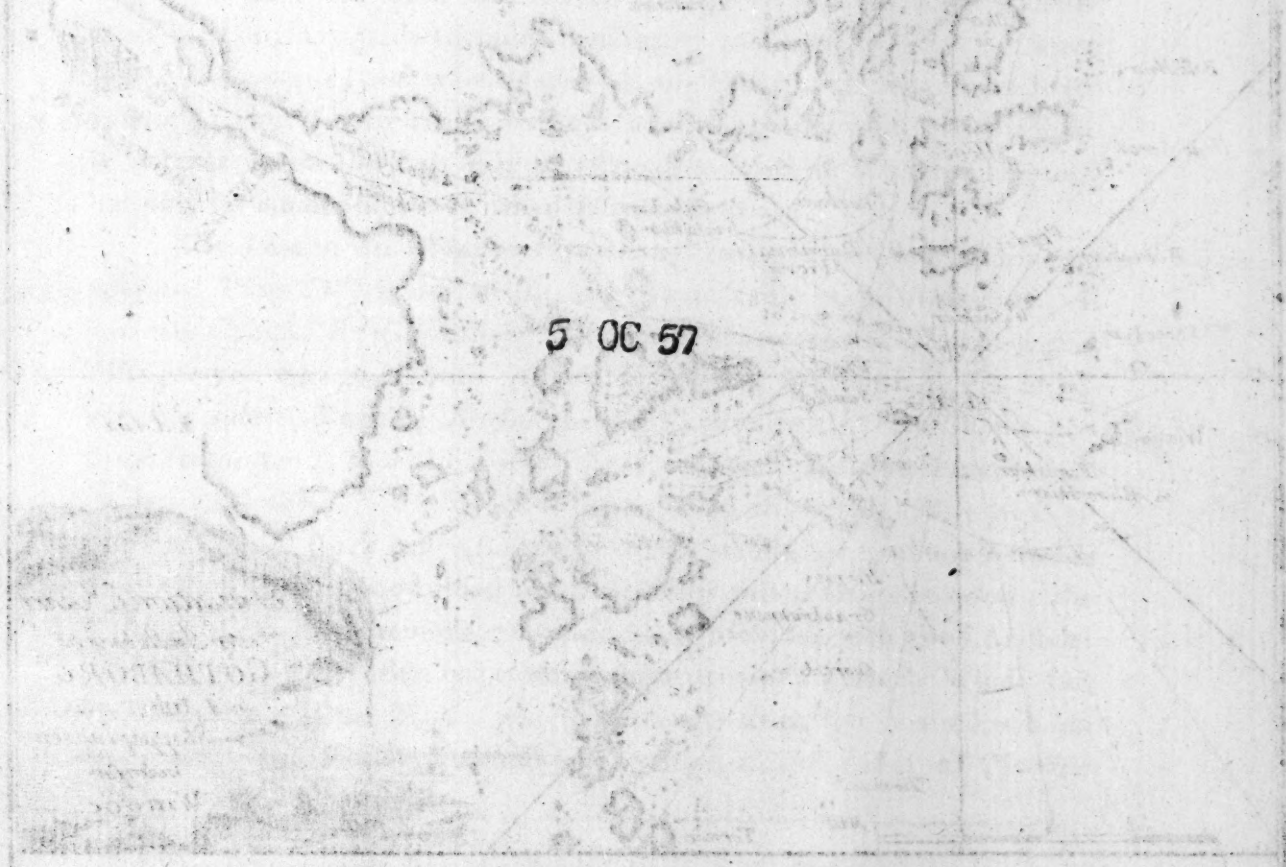
North of *Okkeröe* there is another little Harbour for small Ships within some Islots and Rocks the name of which is *Snekkahavn*.

A Mile or somewhat farther to the North is *Lerkil* which likewise is a Harbour for small Vessels. Finally there is reported to be a good Harbour one League distant from the last mentioned, having 4 Fathom Water; at the Bottom of which lies a Church called *Sleeb* which is seen a good Distance at Sea.

But all the Accounts we have of these above mentioned Anchorages and Harbours from *Okkeröe* to *Sleeb* are so indifferent and imperfect that every farther Information is much to be wish'd for.

North of O... there is another inlet...
some islands...
A... of...
a harbor for small vessels...
about one league distant from the last...
Water at a...
a good...
But all... we have of these...

and...
every... in sight...



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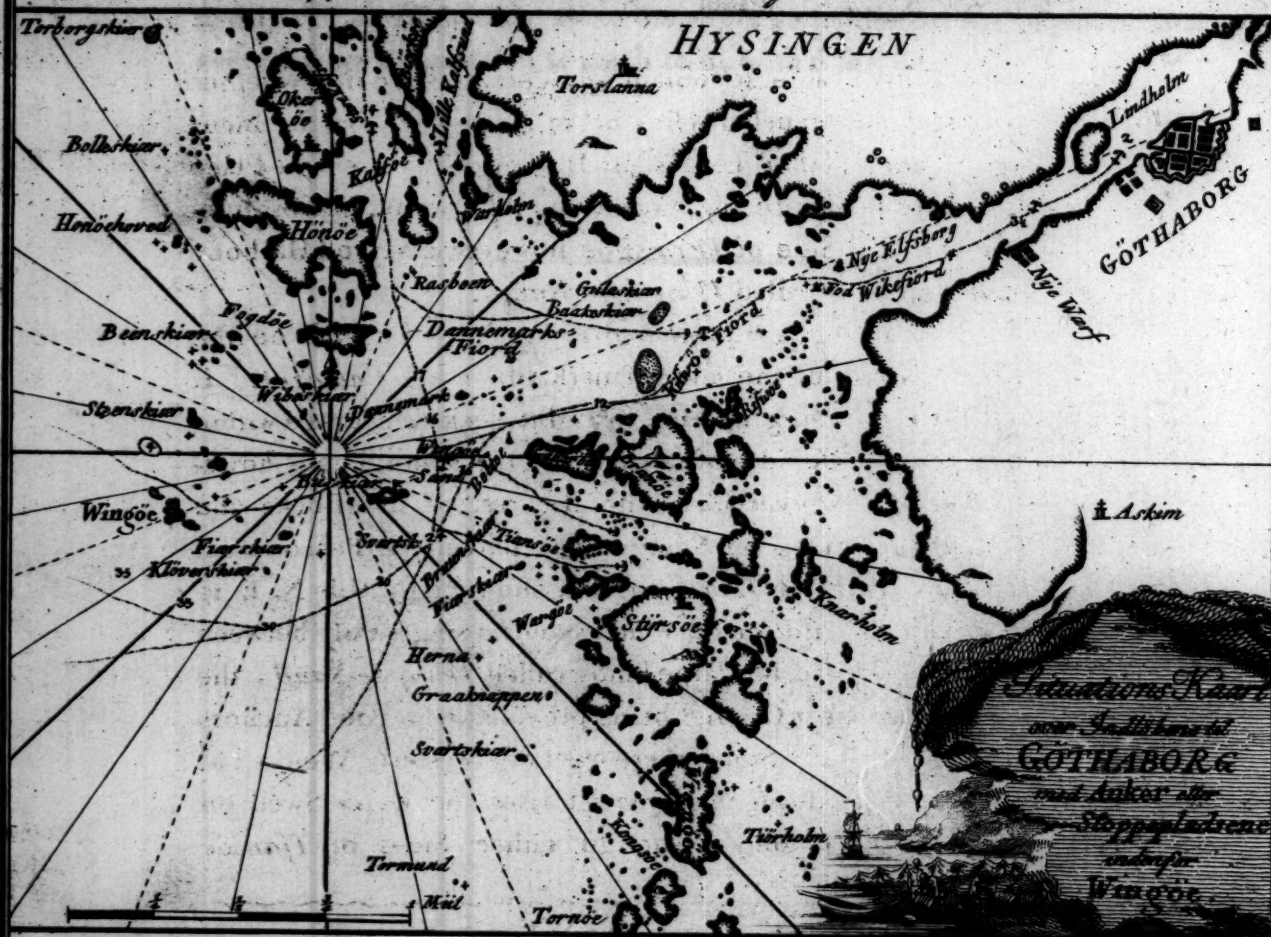
Following...
...

Fortoning af Landstrækningen imellem

a, Marstrand i N. O. $\frac{1}{2}$ O. b, Blaackull.

BORG Marstrand og Wingöe.

c, Den Høipelen i O. $\frac{3}{4}$ N. $2 \frac{1}{2}$ Mil. d, Wingöe i O. S. O. $2 \frac{1}{4}$ Mil.



Fortoning af Wingöe peilet i N. N. O. $\frac{1}{4}$ O. omtrent 2 Mil.

The Anchor-Places

within

WINGÖE and farther up to GÖTHABORG.

Plate D.

We have not been able to obtain any certain Accounts whether there exist any navigable Channels leading up to *Göthaborg* on the inner Side of *Wrængöe*, nor whether there is any Harbour or convenient Place to Stop at, but if there really are any, a coasting Pilot would be absolutely necessary; on the East Side of *Wrængöe* however is a good Harbour but only for small Ships it is called *Wrængöe Knap*.

The Beacon on *Wingöe* represented in the View beneath on the adjoined Plate D *) is one of the most remarkable in the *Kattegat*. If you were bound for *Göthaborg* or were forced to seek Anchorage within *Wingöe* you may go on both Sides of this Island, the south Side is however the safest, Keeping *Klöfverskiær* with the rest of the Rocks and Breakers on the Larboard Side; on *Buskiær* You perceive a Beacon with an Arm like those by *Hallands Wæderöe* and about half a Mile N. E. to this leis a small Rock called *Boltöe* on which stands a single Pole between these two there is a good Road for large Ships called *Wingöe Sand*, the Depth is 16 to 17 Fathom clear Ground being provided with good Anchors and Cables you may ride out a Storm there even of a westerly Wind, but for small Vessels the Wind from this Quarter rises too heavy Swell on Account of which they comonly resort to either Sides of *Tjansöe*

*) This Plate is taken from the *Swedish Chart* of the *Kattegat*.

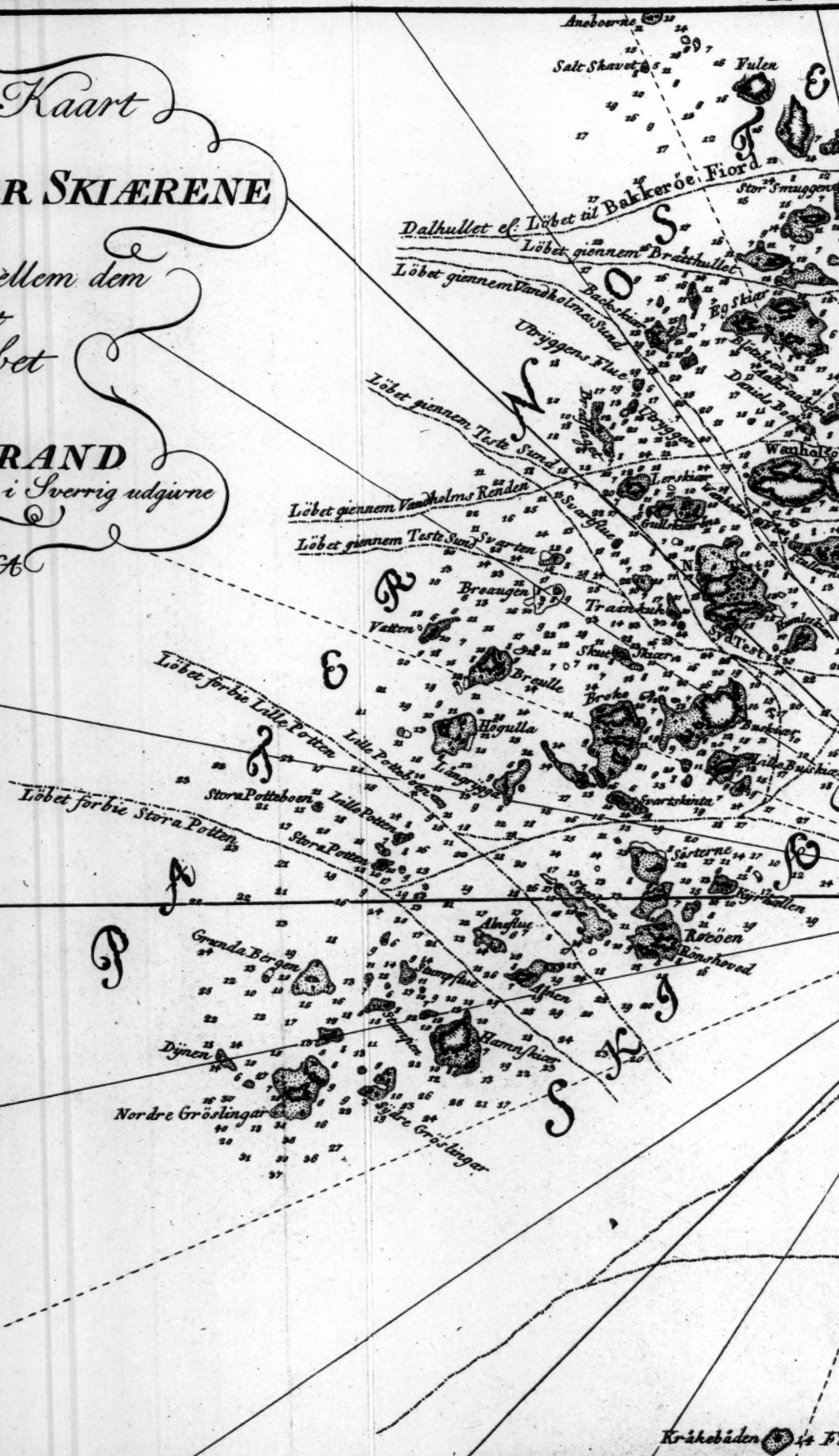
where there is reported to be good Harbours having 7 to 8 Fathom Water. Farther in on *Rifwöefjord* there is likewise a very good Anchorage in 8 to 9 Fathom, but having got so far in You are expected to have received a Pilot aboard, who may if you chuse conduct you farther up the River to *Göthaborg*.

On the East Side of *Okkeröe* there are two very good Stopping places in *Store* and *Lille Kalfsund* and likewise farther to the North on the Inner Side of *Röröe* but what Directions to give or what Leading Marks there may be for going into these places we know not, having in vain tried to obtain Information of them, neither do we know whether there are any more Channels or safe Anchorages between the Islands and Rocks that are situated on the Coast from hence as far up as to *Marstrand*, where a Ship in Case of urgent Necessity might find Shelter.



5 00 57

Speciel = Kaart
 over
PATER NOSTER SKIÆRENE
 med
 Løbene imellem dem
 samt
 Indløbet
 til
MARSTRAND
 m.v.
 reduceret efter det 1795 i Sverrig udgivne
 DKKKA



58

57

56

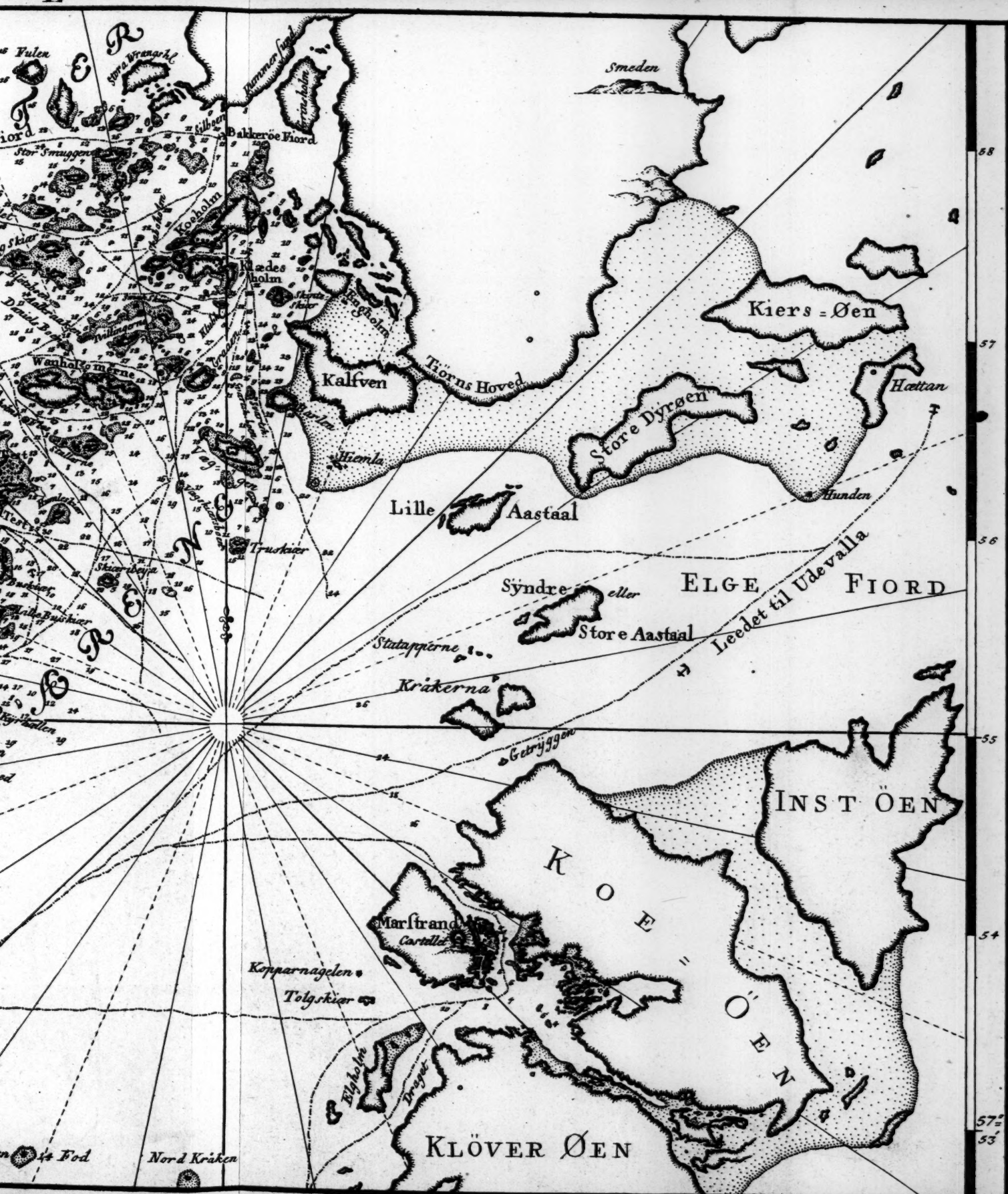
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54

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E



D i r e c t i o n s
for
the adjoined Chart
of
the P A T E R N O S T E R R O C K S
and
the Entrance
to
MARSTRAND, UDDEVALLA, and KLÆDESHOLM.

P l a t e *Æ.*

In the Year 1795 Colonel *Erik Klint* Knight of the principal Order of the Sword, published at *Carlsrona* a very large and excellent Chart of the *Pater Noster Rocks* with *Marstrand* etc. In order to render this Work of ours as compleat as possible we have reduced the Chart to a smaller Scale but as we hope plain and clear enough, when illustrated by the following Directions which are translated from those found on the *Swedish Chart*.

„When you come from the South or West and are bound for *Uddevalla* or *Marstrand* or You only intend to take a temporary shelter at the latter, you have only to observe to bring the Castle of *Marstrand* in E. or in one with *Blaaekul* a remarkable Mountain on the small Island *Bratöe* which lies near the continent. *) This Course will keep you clear

*) This Chart of the *Pater Noster* does not extend so far as to leave Room for this Island being laid down on it; the Position of it may be seen in the general Chart of the *Kattegat*.

of all up towards *Marstrand* where You may enter from both Sides and be certain of being provided with Pilots when You approach it. But if you are bound to *Uddevalla* which is a considerable Trading Town that is situated by the same River but so far up in the Country that it has not been laid down even on the large Chart of the *Kattegat* You have only to follow the Directions of the adjoined Chart until you make the Island *Hættan*, where the Pilots for *Uddevalla* are living."

„Being within the *Pater Noster Rocks* and intending to go to the Harbour by *Klædesholm* you must bring the Houses on it in N. E. by N. and then steer for the Islet or Rock called *Skærileya* which is quite Yellow, you may pass on either Side of it from thence You steer straight for *Graaen* a small but high Island on the Top of which there is a little white Stone Pyramid, you may also go on both Sides of this but it is however safest to leave it on the larboard Side, when you approach the North East Point of it you keep a little more to the North for to avoid the Shoal called *Swartskiærboen*, some what farther within You may anchor almost every where, as the Bottom is very good and there is Room for a Number of Ships, the best Anchorage however is on the East Side of *Klædesholm* where there are Rings a shore for mooring as well as on *Ko-holm*, *Engholm* and *Skinteskiær*; on the Island *Kalfven* is a good watering place."

„When you were forced to pass in between the *Pater Noster Rocks* being to the West Side of them, the best entrance is to bring the Castle of *Marstrand* in S. E. $\frac{1}{2}$ E. for to fall in with the Rock called *Stora Potten* which lies in this bearing from it; *Rönshoved* is very nearly in the same Direction or rather S. E. $\frac{3}{4}$ E., the Rule is to keep these together, but if the Wind should happen to be S. W. You keep close to the Wind until You approach *Stora Potten* which remains on larboard Side passing it at a Distance of $\frac{3}{4}$ or $\frac{1}{2}$ Cable length from whence you steer for *Svartskintan*, a black rock which you are to keep in one with *Lille Buskiær* and the North East Side of *Store Dyröen* in E. $\frac{1}{2}$ S. which appears

to be the South Side of the northernmost Offing upwards to *Uddexalla River* viz between *Tjörnhoved* and *Store Dyröen*, continue this Course until the Islots on Starboard *Söstrene* and *Kyrhællen*, are brought in one with the Castle in S. E. You will see the Top of store Aastaal (the only white Mountain hereabout) in the Middle of the Hollow on the South Side of *Blaackul* in E. S. E. $\frac{1}{2}$ E., You then follow this Direction, taking Care by passing the Shoal on the S. E. Side to keep a little more southerly, so that the white Mountain goes more on *Blaackul*, continue this Course until you have passed a small black Rock which lies to the South of *Lille Buskiær*; having thus got clear of the *Pater Noster Rocks* you may choose which of the above mentioned Harbours you think most proper, with a more Westerly Wind you might too, after having passed *Stora Potten*, steer S. S. E. or S. S. E. $\frac{1}{2}$ E., in order to enter the Passage between *Alnen* and *Hamskiær* however taking Care of the Current which generally sets strongly to the South, You leave *Alneflue* and *Alnen* on Larboard, but *Stumpfluen*, *Stumpen* and *Hamskiær* on Starboard."

„On the East Side of *Lille Potten* there is likewise a very good Channel but there being no Leading Marks you have only the Chart for your Guide, as a general Rule however you may observe: that when you come from the North, you ought by entering the Channel to keep the Castle fair open, on the East Side of *Lille Potten*, for to avoid the Shoal called *Stora Potten* on which there is but 3 Fathom of Water and may rise Breakers by a Ship's passing over it, you ought also to keep *Lille Potten* about the Distance of a Cable's Length on Starboard, from thence you may direct your Course S. S. E. and S. S. E. $\frac{1}{2}$ E. in the Middle between *Alnen* and *Skethasa* which you do by taking Care not to bring the Castle Eastward to the Hollow of *Rööen*, but by Degrees as you approach *Skethasa* the Castle advances to the West Side of *Rööen*, so that when you are athward *Skethasa*, the Castle is already gone to *Rönshoved*, and as soon as the Northern Entrance to *Marstrand* is seen quite open of *Rönshoved* you are clear of the South West Reef of *Skethasa*; but if you find yourself to

be too much over to the Starboard Side in the Narrow, You must by Degrees keep more or less over towards *Rönshoved* in order to clear the East Reef by *Alnen*."

„Coming from the North West with an Intention to pass through *Teste Sund* you are to bring the Castle of *Marstrand* in S. S. E. $\frac{3}{4}$ E. and keep this Course until the Offing is clearly discerned, the Castle is then to be kept on the West Side of it, until You arrive off *Lerskiær* when You bring the Castle in one with *Testehoved*, or the west Point of *Syd Test*, in order to go clear of *Svartflue*; for the further Direction consult the Chart, according to which you leave *Guldskiær*, the *Test's* and *Humleskiær* on larboard and *Svartflue*, *Trainkuk* with *Buskiær* on Starboard; the Course thro' this Channel is almost S. S. E. You may also pass *Svartflue* at the Distance of a Cable-Length on the Larboard Side after first having brought the Castle in S. E. by S., which then will appear over *Store Buskiær* and *Skutskiær*, the latter of which is very conspicuous by a black Hole or Grotto that is called *Skutan*; this Course You keep until you have got *Swarten* on larboard, when you ought to keep so Easterly that the Castle appears to the East of *Skutskiær* for clearing the Ground called *Breaugen*, having passed this you steer again for the Castle leaving *Skutskiær* and *Buskiær* on Starboard whereafter you may pass on either Side of *Skærileya*."

„If you from within or from the South Side wanted to pass out thro' *Testesund* and you already have made the North Point of *Buskiær* you steer W. N. W. until you have got *Skutskiær* on the larboard Side, from thence you may either steer the half Way N. N. W. towards *Swarten* and afterwards N. W. by N. leaving *Swarten* at the Distance of a Cable Length on Starboard, or you may steer N. by W. leaving it at the same Distance on the larboard Side after which you may if you chuse direct your Course more westerly observing only not to steer too northerly before you have got quite clear of the Ground called *Bredflaget*."

„With a Design of going thro' the Passage called *Vanholmsund*

coming from the North, You bring the Castle in S. E. by E. $\frac{3}{4}$ E. and S. S. E. so that it seems to touch the Westernmost Point of *Vanholmerne*, keep this Course until you have passed *Bachskiær* which you leave on Your Larboard Side, it is a low and black Rock, *Utryggens Flue* remains on Starboard, you then pass close up to *Vanholmerne* after which you keep a little more to the East for to go in the Middle between *Vanholms Flue* (on which the Sea breaks) and *Stallerne*, this You do by Steering direct for *Skærileya*. *Humleskiær* remains on Starboard, having passed this you may set your Course farther according to Circumstances."

„If you chuse to go through *Vanholms Renden* for to come to an anchor in the Harbour by *Klædesholm*, You bring the Headland called *Tjörnshoved* which is high in E. S. E. $\frac{1}{4}$ E., this Course will bring you to *Lerskiær* which remains at the Distance of a Cable length on Starboard whereby you go between that and *Bredflaget*, you then proceed farther as the Chart directs, leaving *Vanholmerne*, *Danielsboen*, *Aalkraaken* with *Smackskiær* on Starboard, and *Utryggen*, *Blöteboen*, *Skaboholmene* and *Klubholmen* on the larboard Side, after which you may anchor in the Harbour, there being good Pilots at *Klædesholm* you may be attended by one of them before you have got thus far."

„If you think it more convenient to go through the Channel called *Bratthullet*, *Tjörnshoved* is to be brought in S. E. $\frac{3}{4}$ E. and steering straight for it you will get the N. E. Point of *Egskiær* in the same Direction, and coming close to it you edge a little more easterly round it and steer in the Middle of this Channel down between *Skaboeholmene* and *Smackskiær*, and farther into the Harbour."

„A Ship that with a westerly Wind had got a Lee shore may find a good shelter by attempting the Inlet through *Dalhullet* to *Bakkerøe Fiord*; on the North Side of the Mountain called *Smeden* is a deep Hollow this is to be brought in E. $\frac{1}{4}$ S. and this Course to be kept until you get Sight of the North Point of *Store Smuggen* called *Swartnæsan* which is a low black Point, continue thus and pass close up to the Point which is very bold on

that Side, You then steer for *Stockvigrös* *) for to leave the shoal *Silboen*, on which there is no more than 3 Feet Water, on Starboard, having cleared this you may anchor in good Ground in 12 Fathom's Depth the Course through *Dalhullet* is about East and when You have passed *Stor-Smuggen* E. by S. In Case a Ship has lost her Anchors, she may with safety run a Ground in *Hummersund* the Bottom being soft mud."

"All the Courses and Bearings for the Passages through the *Pater Noster*, mentioned in these Directions are after the Compass like the rest in this Work, but the adjoined particular Chart is laid down after the true North."

The Castle of *Marstrand* is very conspicuous as it lies on the Top of a Mountain about 250 Feet over the Surface of the Water and has a light of a very ingenious invention consisting of 9 reverberating Mirrors viz 6 large and 3 of less Diameter in the Focus of each is a lamp, the whole Machine is contrived to go round by Means of a Clockwork in the Space of 5 Minutes, so that you, in any Position from it, will during that time, successively see 6 bright Flashes and 3 weaker and by short intervals nothing at all of it. This Construction renders this Light so distinct and different from all other Lights, that there can be no Mistake, which is a Matter of much Importance in such a narrow passage. As the whole Machine however is turned by a Clockwork, it is subject to a great Inconvenience viz that of being stopt by accidental disorders; viz: suppose this to be the Case, and You had been in such a Direction from it as to see the bright Light of one of the reverberating Mirrors you Must soon lose sight of it, and have a long Distance to sail before You got in such a Direction as to see another of them, and so on, in proportion partly to the Angle they make with each other, and partly to Your Distance, and Your Course. The Construction of it renders this very plain, as the Lights only can be seen when you are in the direct Line of the Focus of the Mirrors; as

*) *Stockvigrös* is not to be found in the Swedish Charts.

now such a Case possibly might happen, the prudent Navigator ought to be on his guard if he should perceive that these Lights did not follow each other so successively in all points in which he stands from the Light, as it according to the Principles of it's Construction ought to do. The Light on *Marstrand*, like all the other Lights on the *Swedish Coast*, does not burn from the first of May until the first of August.

To judge after the *Swedish Chart* of the *Kattegat*, *Kirkesund* on the West Side of *Tjörnöe* might be supposed to be a good Harbour and easy of Access, but the Author of these Directions has no Intelligence of the Entrance, nor does he know whether there is Depth enough for large Ships.

Additional Remarks.

Thus far the Informations we have been able to collect of the *Swedish Coast* in the *Kattegat*, it appears from these that there are several good Places of Shelter for such Ships as either are caught on a Lee shore or exposed to any other Distress, as this very often may be the Case in the *Kattegat*, we can not help to express the Wish: that the *Swedish Pilots* in general were more active than they really are, for it is a known fact that they very seldom come out to the Assistance of a Ship before she is already in the Entrance and has passed the first dangers; Notwithstanding You are obliged to pay Part of the Pilots Fees tho' you do not get them on board at all, and full Pay is demanded however late they may happen to come before you are at an Anchor; what they charge is however but a trifle. This Inconvenience is the more severely felt on a Coast so dangerous as that of *Sweden*, for suppose even the Charts to be so minute and the Directions together with the leading Marks so plain and distinct as can be wished for, still no Seaman will deny that it is a very difficult Matter in the critical Moment of a violent Storm, heavy Sea, hazy and dark Weather, to distinguish and follow the Directions, and alter the Course

at that very Instant when it is required, with that presence of Mind and Security, as a Pilot from the place who is familiar with every object, is able to do.

The Author Finally adds the Exhortation to all those Navigators that frequent this Passage: previously to peruse and study these Directions, as it is plain that it is very often the Case that neither Calmness of Mind and much less Time for proper Reflection will be found to consult and follow them, if they are not before hand familiar with the Subject, the mentioned Marks etc.

The
Soundings, Banks, and Shoals
between
ANHOLDT and LESSÖE,
and
The SWEDISH Coast.

Hitherto it has been the common Opinion of Navigators that the Lead was but of very little Use in the *Kattegat*; this Assertion is not without Foundation, as long as the Charts indicated so erroneous Soundings; but these being improved, there remains no Doubt of it's Utility when used with attention and precaution; when the Weather is clear and fair there are now many excellent and distinguishable leading Marks by Day in the *Kattegat*, as well as Lights during Night, but how often may not Fog and hazy Weather prevent their being seen at the necessary Distance? the Currents being moreover irregular and incomputable, a Ship

may very often be set from her Course, and every Means ought therefore to be valued whereby her position may be concluded. There are very few Tracks where the Soundings are so distinct that you by one single throw of the Lead directly can know Your position, the Bottom of the Sea resembling the surface of the Earth, uneven with Hills and Dales, it would create confusion nay be impossible to denote the soundings of each single Spot in the Chart, as therefore the Soundings necessarily must vary some Fathoms more or less especially in deep Water; this is of no Consideration, provided they agree with the general Soundings marked in the Chart; the Quality of the Ground ought thereby to be attended to, and therefore no prudent Seaman will throw out the lead before he has put fresh Tallow on it, and having thus sounded several times and compared the different Soundings with each other, he will be able to make the proper Conclusions.

As Seamen make Use of some technical Terms for the different Quality of the Ground, and these are used on this Chart it will be necessary to explain the Meaning of them; where the Word *Stek* is used, it signifies that the Ground is clayish and tenacious consequently the best holding Ground. *Stek* is a glutinous Ground Leaving nothing on the lead but sometimes only a little fine Sand. *Mudder*, which is most commonly met with in the *Kattegat* where the Water is deep, is a loose oazy or muddish Ground in which the lead sinks and is dirty when taken up; *Leer* signifies Clay; *Skæl* Shell.

Capt. *Harboe* in his Account of the Soundings of the *Kattegat*, has given names to several Banks, where the Ground by some or other peculiar Quality distinguishes itself from the rest.

L Y S E - G R U N D.

If you by cruising either out or into the *Sound* should happen to approach the *Lysegrund*, you ought to keep a good Look out, as the Soundings shallow too suddenly to indicate it, when the Weather is clear enough the mere Sight and Bearings of *Hesseløen* is sufficient to warn you; the Coast of *Siælland* on the contrary can not be seen but with very fine and clear Weather, and in this Case the most remarkable Objects here are *Bistrup* and *Søeborg* Churches being both situated on the high Land, the first of which appears more long in Extent and lies single, the other on the contrary shorter and has got some Trees on the West Side. The bearings of the Lights on *Nakkehoved*, in particular the Westernmost will by Night be a sure Leading Mark as it undoubtedly can be seen from athward this Bank. By Day Time You have moreover a very good Indication of it as you may from the Mast-head at the Distance of 2 Miles plainly perceive it by the Colour of the Water, having a greenish Cast, and by a nearer approach you even see dark Spots on it. With Respect to the Reef which surrounds the Island *Hesseløe* particularly on the Northern Side, no farther precaution is required than to keep a due Distance from it, if there is necessity for it you may go between this Island and the *Lysegrund*.



STORE MIDDEL-GRUND, and RÖDE BANK.

The first Bank, which in order the better to distinguish it, has lately got the Name of *Store Middel-Grund*, has on the Middle of it a small shallow place having only $5\frac{1}{2}$ Fathom Water, it is laid down in the Chart with the greatest Accuracy, and if you hit upon it with Your Lead you may from thence be sure of Your Position. When you come from the

southward having passed the *Kull* with 17, 18, 19 Fathom *Stek* Bottom you enter on *Store Middel-Grund* with 15, 16 Fathom fine Sand interspersed with very small red pebble stones, which together with the Depth and Quality of the Bottom in the whole Bank is marked on the Chart, by approaching the above mentioned shallow Place the Soundings Lessen remarkably on all Sides of it and your lead indicates Shell with very small black pebble Stones, the soundings close to the Bank are irregular in particular on the East Side, but as there is no Danger even for the largest Ships the Indication of the Chart will be sufficient.

N. N. E. of this Bank there is a smaller one called *Röde Bank* (the red Bank) the Bottom consists mostly of coarse red Sand, the Depth is pretty even from 15 to 17 Fathoms.

T h e E a s t R e e f

of

A N H O L D T

and

the Lights on that Island.

Anholdt is a very flat and sandy Island; on the End of the Reef which runs out from the East Point lies a Stone called *Knoben* which some times may be seen a little above the surface of the Water, there is no farther Mark at all by which You may know whether you are within or without the End of the Reef except the Bearings and guessed Distance as the Soundings are deep pretty close to it.

Formerly the Light on *Anholdt* was but very low and could not be seen farther than just was necessary for to avoid the Reef, and hardly that, when the Weather happened to be thick and hazy. But in the Year 1788 a high Tower was built, at the Top of which the Light was placed which now is 112 Feet above the surface of the Water, and as the Fire-Pan moreover is very considerable nay perhaps the largest that exist, you may see it from a Distance of 6 or 7 Leagues and even more according to the State of the Weather, the Elevation of your Ship and the Look out you keep from the Mast-head. *) The Bearings when observed so early will prove on excellent Warning even for distant Shoals, for Instance that on *Lille Middel-Grund* and the other between *Lessøe* and *Anholdt*, which shall be mentioned in the following, but as now the Light on *Anholdt* on account of it's Brightness may be seen at so great a Distance, it might easily be the Occasion of your supposing your self nearer to it than you really were and for that Reason keep too much over under the Coast of *Sweden*, where you, if the Wind should happen to veer more to the West, either could not double the *Kull* or were exposed to a Lee shore which you were not able to clear; on the other Hand by knowing the Light to appear high and clear You may be tempted to trust too near

*) What has been observed pag. 18 with respect to the Light on the *Kull* ought to be mentioned here too: viz that a hard Gale of Wind will throw the Flame in an horizontal Direction which will prevent you from seeing the Fire when you are to the windward of it as distinctly as when you are athwart it, tho' the Light on *Anholdt* is three times larger than that on the *Kull*, still the same Inconvenience in some Degree attends this, being like the other exposed to the Effects of the Weather. The Variety of the Air and the Direction of the Wind may also contribute very much to make the Appearance of a Light very different, so as to seem either more or less distant. It is notorious that with an East Wind, a Coast comonly is seen higher and from of a greater Distance, there is Reason to suppose that the same Cause which effects this clearer Appearance of Land during the Day, may also effect the clearer Appearance of a Light during the Night.

to it supposing yourself farther off than you really were and thereby run on the Reef it self and thus „*incidit Scyllam qui vult evitare Charyb-
dim.*” In Order to prevent this and to furnish the Seamen with a positive Mark for keeping the due Distance of the End of the Reef and at the same time far enough from the *Swedish Coast*, His Majesty has ordered a Lamp Light to be placed on the East Side of the Light Tower; this was lighted at the Beginning of this Year and burns together with the upper Fire. It is however not as yet decided for certain whether it is to be continued for the future, but will depend upon the more or less Utility reported to be derived from it; the Author of this thinks it of the greatest Use and Benefit to the Navigation of this Passage. The Light is placed 50 Feet beneath the upper one, the skillful and attentive Navigator will from hence, with respect to the Elevation he sees it from and other occurring Circumstances be able to judge how he ought to see it, in Order to be sure of clearing the Reef; though it is impossible to give any fixed Rule for this, still it must be added that it follows of Course that when you are at such a Distance that the Lamplight just appears over the Horizon, it being but 50 Feet below the upper one, will at first be seen almost in one with this, on Account of which care must be taken to discern them from each other, on an earer approach both will be seen distinctly and separately. *) This Light is also of use for Ships that occasionally cruise on either Side of the Reef but hereby it is to be observed that those which come from the westward or the North or South Side are prevented from seeing the Light

*) These Observations are confirmed by the Rapport lately sent to the Court of Admiralty by an Officer commanding one of His Majesty's Ships, according to which both Fires appeared plainly and separately, altho' very near together, when seen with a night Telescope from the Deck on an elevation of about 16 to 18 Feet over the surface of the Water and at the Distance of about 4 Leagues.

by the Rounding of the Tower until it decreasing by Degrees, makes it visible. *)

The Chart shews that you may anchor on both Sides of the Reef on the North for a southerly and on the south for a northerly Wind, but it is only extraordinary Cases that Could induce any Body to stop here; on the Reef there is a Swash through which small Vessels of 8 or 9 Feet Draught may pass. Tho' the Reef called *Kleins Rev* is but very small in Extent still Ships cruising on the South Side of *Anholdt*, ought to take Care of it.

*) When you are on the West Side of *Anholdt*, the Elevation of the Land hides the upper Light, but as soon as you have passed it to the South, it appears, we are informed that at a proper Distance the lower Light also is seen in the Bearing of E. N. E. or perhaps a little more Northerly.

by the Rounding of the Tower until a description of the

is visible.)

The Character of the tower and the manner in which it

on the North and a number of the south side of the tower

it is only extraordinary Cases that could induce any

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Drought may pass. The first called Awaia, the second

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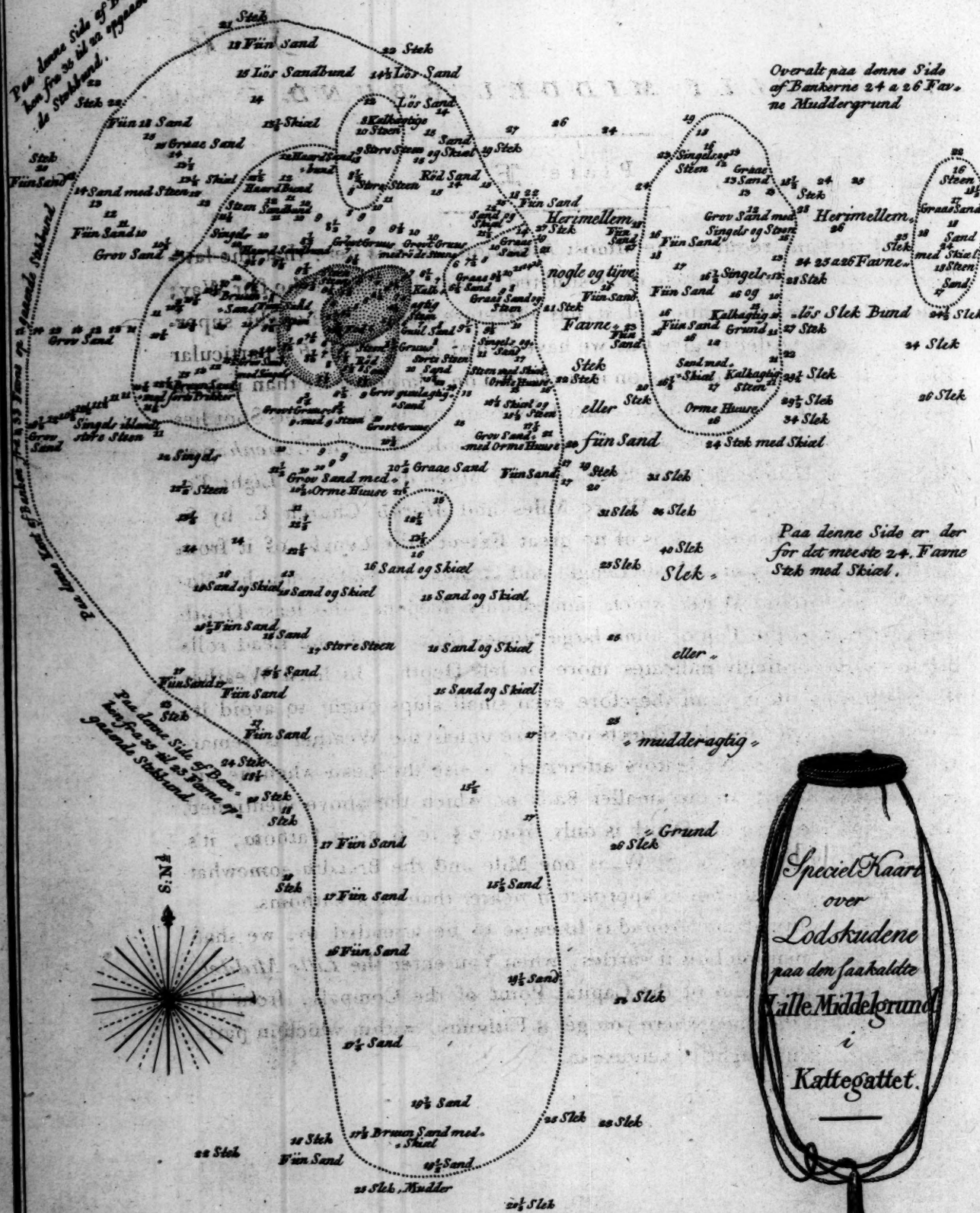
Gate of it

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When you are on the West side of the tower, the light is
the object of light, but as soon as you have passed it, the light is
we are interested in a proper distance to the light, and as the
bearing of F. N. E. or perhaps a little more towards

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 from fire to 22 appear
 de Stockholm.
 22
 Sick 22
 Fun 18
 24

Overalt paa denne Side
af Bankerne 24 a 26 Fav.
ne Muddergrund



*Paa denne Side er der
for det mæeste 24. Færne
Støb mod Skiael.*



LILLE MIDDEL - GRUND.

Plate E.

This Bank requires the utmost Attention, as it is here that the lately discovered Shoal see pag. 11 is situated, which lies just in the fair Way; a more minute Description of it has therefore not been thought superfluous, and in Order to give this we have joined in the Plate *F* a particular Plan of it with the Soundings on it, executed on a larger Scale than it is on the Chart itself. According to exact Observations the dangerous Spot lies on 56° , $57' 20''$ Latitude and $35' 40''$ Longitude W. from *Copenhagen* the Castle of *Warberg* bears E. N. E., 15 Miles distant, the Light Tower on *Anholdt* S. W. by W. 17 Miles and *Morup* Church E. by S. about 14 Miles Distant. It is of no great Extent, the Lenght of it from N. to S. being but $\frac{1}{4}$ of a Cable Lenght and E. and W. half as much; close to it is 4 Fathom Water which immediately deepens, the least Depth will be found on the Top of some large Stones from which the Lead rolls down and accordingly indicates more or less Depth. In hard Weather the Sea breaks on it, and therefore even small ships ought to avoid it, and as you can not see the Objects on shore unless the Weather is remarkably clear we advise Navigators attentively to use the Lead when he approaches this Bank, on the smaller Bank on which the above mentioned large Stones are lying the Depth is only from $4\frac{1}{4}$ to 6 or 7 Fathom, it's Lenght in E. N. E. and W. S. W. is one Mile and the Breadth somewhat less; large Ships ought not to approach it nearer than on 8 Fathoms.

The Quality of the Ground is likewise to be attended to; we shall therefore here mention how it varries, when You enter the *Lille Middel-Grund* in the Direction of the Capital Point of the Compass, from the Skirts of it until that part where you get 8 Fathoms, within which in particular no large Ship ought to venture in.

When You enter the *Lille Middel-Grund* from the *North* you will find: first — fine loose Sand — hard Sand — coarse Singels.

N. E. — Loose Sand — chalky Stones — large Stones — red Sand with Singels.

East — Grey Sand — Singels and Shells — Yellow Sand — chalky Stones.

S. E. — Coarse Sand with Ormehuse (a particular Sort of small Shells) — Shells and Stones — Stones — red Sand.

South — Fine Sand — Sand with Shells — Stones — coarse Sand with Ormehuse — coarse Singels — coarse yellow Sand.

S. W. — Fine Sand — Sand with Shells — coarse Sand with Ormehuse — coarse Gravel with Stones — Stones.

West — Coarse Sand — Singel with large Stones — brown Sand with black Spots — coarse Sand with Singels.

N. W. — Fine Sand with Stones — coarse Sand — brown Sand — fine Sand with Stones.

According to this and the farther Direction of the Plate *F* you may run in on *Lille Middel-Grund* until the Soundings of 8 Fathoms, when you after Your steered Course and the Quality of the Ground ought to know on which Side to avoid it.

On the East Side of *Lille Middel-Grund* there is another Bank of less Extent, the Channel between which is about one Mile broad, in this you will find some single Soundings of 16 to 20 Fathom but in General the Depth is twenty odd Fathom *Stek* Bottom.

The Entrance from the North and N. E. Side on the *Lille Middel-Grund* and this last mentioned Bank is almost the same, You get from twenty odd Fathom *Stek* or muddy Ground at once 15, 14, 12 Fathom, the Difference of the Quality of the Ground and the following soundings within the Banks may indicate upon which of these you are got in. On sailing in on the *Lille Middel-Grund* from N. and E. you will find less

and less Water and from the East it shallows immediately; in Case you enter the smaller Bank from the South East Side you will at once from about 29 Fathom Stek get 10 to 11 Fathom Sand with chalky Stones and Singels; but when coming in the same Direction on *Lille Middel-Grund* you have first 17 and 15½ Fathom fine Sand afterwards Gravel and Shells with Ormehuse and farther in the Soundings decrease.

Lille Middel-Grund extends pretty far to the south and deepens by Degrees. When the Light on *Anholdt* bears W. S. W. or more southerly distant about 5 Leagues you must have Soundings within the Bank on 15 to 16½ Fathom Sand and Shells and you are yet fully 2 Miles off from the shallow and may direct your Course after this, that is to say: if you in that Bearing from, *Anholdt* have not the Soundings of the Bank you must absolutely be on the East or West Side of it, in the first Case you have 23 to 26 Fathom with Stek and Mud but on the contrary if you are on the West Side 18 to 20 Fathom Stek or fine Sand.

It is proper here to repeat what has been mentioned before: viz that it is impossible by the Examination of such a Bank on Account of the Current, the Motion of the Sea with many more Circumstances to lay down each Sounding in the Chart on it's exact Point, these laid down here are the Medium of numbers of Soundings; a prudent Seaman ought therefore not to determine any thing after one single Indication of the Lead, but form his Opinion after the Medium of several and often repeated Soundings, and when compared together, there is no doubt of these being of the most Assistance to attentive and skillful Navigators.

FLADEN.

S. S. W. distant about 8 Miles from *Niddingen* a Bank called *Fladen* was laid down in the former Charts on which there was marked from 5 to 7 Fathom, but later surveyings have proved the false position of it there being on that place above thirty Fathom Mud Ground; a Bank on the Contrary has been discovered in S. W. and S. W. by W. at about the same Distance, as this without doubt is the old Bank which has been erroneously laid down in the former Charts we have given the old Name of *Fladen*, to it, the Soundings are in General from 12 to 15 Fathom brown Sand which is very remarkable by it's being mixed with a Substance like broken red brick-Stones, farther on the same Bank some isolated Rocks or large Stones have been discovered, the least Depth which as yet has been found on the Top of them has been 6 Fathom and the Lead has some times been observed to roll down into deeper Water between these Rocks, on all sides of this Bank there is a considerable Depth and Mud Ground.

For the Soundings, marked in the Chart farther to the North in the *Kattegat* we ought to acknowledge that we have no positive Authority, they are laid down after the best Accounts we have been able to collect, neither do we know for certain whether there not in this Track might exist some remarkable Bank though it is not probable. We find however in the *Swedish* Chart of the *Kattegat* a small Bank, laid down in E. S. E. $\frac{3}{4}$ S. distant about 4 Miles from the *Trindle*, which has been called *Hummelbank* and on which there is marked 13 Fathom, notwithstanding we have no farther authentical Information of it still we have thought it more proper to lay it down in this Chart, than entirely to omit it.

The Soundings

between

LÆSSÖE and ANHOLDT.

The exact knowledge of the Soundings between *Læssøe* and *Anholdt* is of great importance to Navigators. On the East Side of that Edge which is marked in the Chart with a pricked Line and on the left Side of which, stands the Word *Sanden*, are deep Soundings and Mud Ground, but the Instant you get over the Edge you find 15 to 13 Fathom the Bottom Sand, somewhat farther within there is only 7 or 8 Fathom which is found all over, by cruising, the Lead will determine with the greatest Degree of Certainty whether You are within or without this Edge.

A Shoal called the 10 or 12 *Feet Ground*, distant about 7 Leagues to the North of *Anholdt* having been laid down in the former Charts, it was particularly recommended to those Officers who lately were sent upon Surveyings in the *Kattegat* to settle the true Position of it. Capt. *Harboe* sought for it in vain for a long while, but instead of this he found pretty near where it was thought to be, a Shoal *Anholdt* then bearing South, distant 6 Leagues, the Bottom fine Sand interspersed with large Stones on the Top of which however he never found less than 22 Feet, these Observations were confirmed in every Respect the following Year, when Capt. *Rafn* and Lieutenant *Bardenfleth*, each commanding a Vessel were both ordered farther to explore this Track, which renders it more than probable that the new discovered Shoal is the old one which was erroneously laid down in the old Charts; the Disparity of the Depth may perhaps be accounted for by a Revolution of Nature whereby some of the highest Rocks may have sunk deeper into the Ground, or the Top broken off by heavy Masses of Ice, some single of the Rocks may possibly too have escaped the Lead of the Surveyors notwithstanding their undefatigable

Search. . We have thought proper to keep the old Bank too on this Chart having however put the Name *Uvis* (uncertain) to it. By hard Weather the Sea is observed to cripple on that lately discovered. If you with a large Ship should be under the Necessity of cruising in this parallel you ought to be careful of this Shoal, by very clear Weather the Light Tower of *Anholdt* may be seen from the Mast-head as well as the upperlight by Night, and the Bearings can determine whether you are East or West of it, as the Latitude or the guessed Distance may indicate whether you are to the North or South of it; but if the Weather does not permit to get sight of the Tower on *Anholdt* which is the only Land Object that possibly can be seen, and you suppose yourself to be on this Parallel, prudence requires that you must not stand farther on the West Tack until you get the Soundings of the Edge of *Sanden*.

The small Bank which is situated to the Eastward of *Sanden* has on it's northern Part twenty odd Fathoms and on the Southern from 12 to 13; the Bottom is Sand with Shell; on all Sides of it there is above 30 Fathom Mud Ground.



The Island LÆSSÖE

and

the Reefs about it.

This whole Island is very flat, *Westerby* and *Byrum* Churches are the only Objects that can be seen in clear Weather at any Distance. That Reef which runs Southward from *Læssøe* is by late Observations found to extend farther than it was marked in the former Charts, it has an even and sandy Bottom with 4 Fathom Water; that gently decreases

up towards the Island; *Silderön* and *Syndre Rönner* are only some large Stones upon it. Even on the East Side of this Reef you may in very clear Weather perceive a Mountain on the Coast of *Jylland* (*Jutland*) called *Jydske Aas*, the bearings of which consequently may be of service.

There is no Harbour at all on the whole Island, and it is also often very difficult to land with Boats on Account of the Bars and surf, very small Vessels only may stop on some places within on the Reef for an Instance in *Laaen* within the South End of *Skiollen*, and in *Aalebergdybet* on the North Side of the same, on both places there is however no more than 6 Feet Water, a third Stopping place may also be found on the South West Side of the Island, it is called *Alsdybet* and has no more than 7 Feet Water. Those small Vessels that intend to anchor on any of the above mentioned places may run in on the Reef to 15 Feet Water taking Care to keep *Byrum* Church more Westerly than N. by W. for to avoid the *Silderön*, the Mark for this is to bring *Hornfiskerön* in one with *Byrum* Church, but it is only by clear Weather that You can see this Mark at the necessary Distance, those that are well acquainted and have but small Vessels may cross the Reef between *Silderön* and *Syndre Rönner*, some large Stones are however said to lie on the West Side of the former. Tho' *Syndre Rönner* is but low it is still always above Water. As a General Rule it may be added that no Vessel, when in on the Reef, ought to approach the Inner Grounds nearer than on 12 Feet of Water.

For the *Kobbergrund* which lies S. E. from *Læssøe* there is no Mark at all; when the Weather is remarkably clear You may from it's Vicinity see *Byrum* Church and also faint discover the East End of *Læssøe*; if contrary Winds force you to keep cruising on the East Side of *Læssøe* you have only Your Lead to rely upon for Your Guide; From the South End of the *Kobbergrund* until the East Point of *Læssøe* called *Syrodden*, You will by approaching first get Soundings of 5 Fathom, decreasing to 4 and less; you may with safety in Proportion to the Draught of your Ship, stand in

until you get $3\frac{1}{2}$ Fathom but by no Means venture farther in less you expose yourself to run a Ground.

If you were bound for the *Belts* or for any place on the Coast of *Jylland* you may with safety ride for a Westerly Wind on the Lee Side of *Læssøe* and the Reef. From the Point of *Syrodde* a Stone Reef runs out which however is scarce a Mile in Length.

On the North Side of *Læssøe* within *Jægensodde* a Ship may occasionally stop, the holding Ground being good, but Easterly and Northerly Winds sets a heavy Sea. *Nordre Rønner* is always above Water.

The *Trindle* is laid down according to very exact Observations. *)

*) Whilst the Gentlemen employed on the Surveyings were on the Island of *Læssøe* a Vessel just happened to run a Ground on the *Trindle*, this accident furnished them with an Opportunity of taking the most accurate Observations of the Position of this Shoal. It has long ago been projected by the English to place a floating Light on the *Trindle* and application made for it to the Court of *Denmark*, which, always attentive to every thing tending to the Improvement or Security of Navigation, and having duly weighed the Reasons for and against, has not as yet approved of the Plan, as the Execution of it even might be attended with dangerous Consequences. The Editor shall only mention two Objections that according to his opinion can be made to it; first it must be observed that there is no Harbour on *Læssøe* from whence such a Vessel could get Assistance in Case some or other Accident happened to it, and where she may lay up during Winter, for from thence to proceed to her Station again in the Spring as soon as the Water was perceived to be free of Ice. Now on the Contrary the next Harbours are 16 Leagues or more from the Station. Whatsoever precautions that might be taken towards securing such a Vessel against Storms, Heavy Seas etc. still it is impossible that such could be found as would protect her against large Masses of floating Ice. From hence it is evident that she necessarily must be gone in proper Time before Winter sets in. As for the Time when she was to be on her Station again in Spring no certain period can be fixed as there are several Instances that the Harbours here about have been blocked up with Ice as late as the Month of April and floating Ice seen in the Month of May in the *Kattegat*. Contrary Winds might also detain her from being on her Station on the proper time; thus when she was most wanted for viz: in long and Stormy nights, she would often have been prevented from being there. The second and most

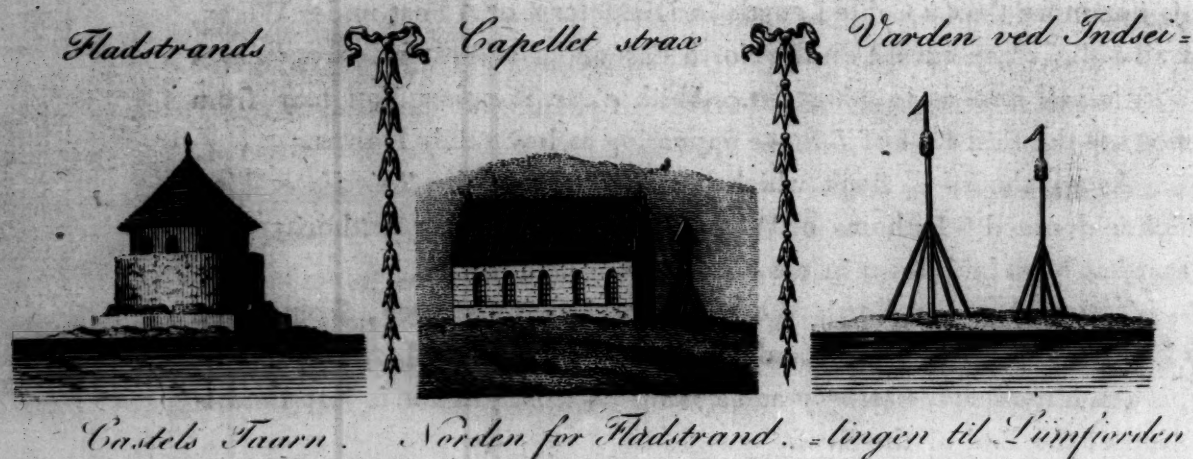
It is not more than a Cable Length in Diameter 4 or 5 Feet under Water, on all Sides steep except on the North East and the West Side from which a very small Reef is running out. With clear Weather You may from hence see the East End of *Læssøe* appearing as low sandy Downs.

As to the small Bank which lies N. by E. of the *Trindle* and on which is denoted 6 Fathoms of Water we have no farther Authority than that it has been laid down in the old Charts.

The End of the North West Reef of *Læssøe* is steep, from 24 or 20 Fathom you get at once 5 and 6, you ought therefore by no Means to approach it nearer; *Westerby* and *Byrum* Churches in one is just the Direction of the End of the Reef.

There are Pilots as well on the West as East Side of *Læssøe*, that may bring you to the best Anchoring places for Stopping; but when the Wind bears on shore it is difficult for them to get out nor can they easily distinguish a Ship at any great Distance on account of the Lowness of the Island, those Living at the West Side may also serve as Pilots for the East Coast of *Jylland*.

important Consideration is that if any Accident happened to such a Vessel which indeed no human precaution intirely could insure her for, then it would take up too much time before an account of it could be had, and another Vessel sent up to fill her place, Ships that came in with a Westerly Gale and wished to keep the Advantage of the Wind would undoubtedly steer for the floating Light and the Consequence would unavoidably be the Ruin of such Vessels on the Shoal itself or on *Læssøe* or the Reefs about it. Mean while the *Danish* Government has given Orders for projecting farther plans as well with Regard to Floating Lights as to the Erecting Light Towers on the East End of *Læssøe*; the Result and Execution of which will accordingly be communicated to the Public.



The East Coast of JYLLAND

from

SKAGEN down

towards

the Entrance of the BELTS.

When you are coming from the North Sea You generally take Sight of *Skagen* (the *Scaw*) which is a very flat and sandy point of Land. The Light Tower which is 63 Feet high and the Church are two remarkable Objects, when the Weather is very clear you may see them at the Distance of 3 or 4 Leagues. What already has been advanced with Respect to the Light on *Kull* pag. 18 and farther in the Note pag. 42 ought to be paid particular Attention to with regard to the Light on *Skagen* *) espe-

*) A Project for Surrounding this Fire with a Building with Windows is at present under Consideration and if executed, shall be advertised.

cially when You enter the *Kattegat* with a fresh Gale between W. and N. When You have got sight of *Skagen*, you want no further Direction than to keep at due Distance from the Reef laid down in the Chart.

Along the Coast between *Skagen* and *Fladstrand* there is in general good Anchoring Ground where you may ride for a Westerly Wind on what Depth you chuse, nevertheless some places in particular are to be preferred on account of the Quality of the Bottom. The Pilots at *Skagen* will bring you up to them and if you desire it proceed with you as far as to *Fladstrand*.

FLADSTRAND.

Ships bound for the *Belts* or any Place on the Coast of *Jylland* may find Pilots at *Fladstrand*, *Hirsholmen* and *Bangsboestrand* who when the common Signal is made for them will attend the Ship. *) *Fladstrand* and *Hirsholmen* are easily known, as soon as you are come a little within *Skagen* or you come from the East you may at a Distance see the high Land by *Bangsboe* which lie about a League to the South of *Fladstrand* and on a nearer approach the Chappel, situated to the North of *Fladstrand*, and the Tower of the Castle which is on the South Side close to

*) New Regulations have lately been made with Respect to the Payment etc. of these Pilots. We think it proper, by this to inform all Comanders of Ships in order to avoid Disputes between them and the Pilots, that it is the Law for Pilots taken wheresoever to conduct the Ships only to the first Anchorage of the desired Place, and by no Means into the Harbour itself, which is the Bussines of the Pilots on that Place. Thus for an Instance a Pilot from *Fladstrand* will conduct you to the Anchorage at the Entrance of *Randers Fiord* but he is not allowed to bring you the River in; and for these Ships that go thro' the *Belts* Pilots are to be relieved by *Fridericia* and *Nyborg*.

the Sea are very remarkable Objects by coming from the North or East the Islet *Hirsholmen* appears in the Foreground for which you may stand in at the Distance of about a Mile. Large Ships that Anchor by *Fladstrand* ought not to let go their Anchor on less than 5 or 6 Fathom the Castle bearing W. N. W. or N. W. by W. Ships of Middle Size and small Vessels may find tolerable good stopping Places within *Hirsholmen* and on the North and South Road by *Fladstrand* but they must be ready by a Change of Wind to go from one of these places to the other, for when it blows a North East Wind they are obliged to proceed down to the South and with Southerly Wind to the North anchorage.

S Æ B Y E.

Sæbye is but an indifferent Town having no Harbour and of Course very little Trade, a small River which runs out here can only admit of Boats. If a Ship is bound for this Place she must be loaded and unloaded on the Road, You may lie farther off, or nearer to the shore in Proportion to the Draught of your Ship and may have Pilots.

D V A L E - G R U N D.

In the Middle of the Channel between the Reefs of *Læssøe* and *Dvalegrund* there is about 9 or 10 Fathom of Water the Mark for Sailing through it, is to keep a good Offing of a Ship's Length between the *Castle* and the *Chappel* of *Fladstrand* the former on the West Side. Ships

that are not of a very deep Draught may pass on the Inner Side of *Dvalegrund* where the Depth is about 4 and $4\frac{1}{2}$ Fathom, the Bottom fine white Sand, the Mark for this Passage is to bring the *Castle* as much as above mentioned on the East Side of the Chappel, and has that Advantage that the Current, if against You, is less strong; but a Shoal called *Middel-Grund* on which there is no more than 15 Feet of Water and for which the Leading Marks are not plain renders a Pilot necessary.

ASAAE R E N D E.

Within the Ground *Rimmen*, *Asaae Rende* affords a very safe Harbour but only for Ships of 10 to 11 Feet Draught, as there is a Bar at the Entrance from both Sides; on which with common Water there is no more than 12 Feet. It is a general Observation that with Easterly Wind there is always low Water on the whole Coast of *Jylland*. As but extraordinary Occasions may induce You to go in, there are no Pilots, but those from the other Parts of the Coast are well acquainted.

The Entrance

of

L I I M F I O R D E N.

Lümfiorden is a Gulph or Arm of the Sea running with considerable Extent up in the Northern Part of *Jylland*, at the Mouth of it and some Miles farther up, the Breadth is no more than about a Mile. 5 Leagues from the Offing lies *Aalborg* a pretty considerable trading Town which

the Limits of the Chart has not allowed us to place on it, neither would this have been of any Use as it is impossible to get as far up without a Pilot, which when Signal is made, will come on board from *Hals*. Ships that draw more than 10 Feet of Water, are not always able to get over the Bar between the Buoys at the Entrance, but must unload Part of their Cargo in Lighters. If Westerly Wind blows for a long Time, the Depth on the Bar may increase to 12 Feet and on the contrary with continued easterly Wind decrease to 8 Feet, with constant fair Weather the tide is pretty regular tho' the Difference of high and Low Water is but 1 to $1\frac{1}{2}$ Feet. Should a Ship happen to come on for a hard Eastern Gale, which renders it difficult for the Pilots to come out at least betimes, and the Ship notwithstanding ventures to stand in, a Flag will be hoisted on the Castle to signify that she may pass the Bar with 10 Feet Draught but if the Water is so low that only Ships of 8 Feet can go over it, the Signal is made by hoisting the Flag with a waft and lowered to the Middle of the Staff. Two Beacons are erected on the South Side *) when you bring these in one they will lead You to the first Buoy. You avoid the Reef called *Normands-hagen* by bringing the first Buoys in one or a little to the West of the North Side of the Mountain *Muldborg*. When you come from the South you must bring the Church by *Hals* in N. N. W., and when you get the North Declivity of *Muldborg* in W. S. W. you are by the Buoy. For contrary Wind you may anchor in S. S. E. from the first Buoy in $3\frac{1}{2}$ Fathom, where the holding ground is so good that there is no Instance of a Ship's having drove, even in a Gale of an easterly Wind. When the Weather is tolerable and the Current not too strong you may easily work in by Tacks.

*) They are represented on the Plate pag. 54.

SVITRINGEN.

The North End of the Shoal called *Svitringen* and where there is 18 Feet of Water bears S. 75° E. distant $6\frac{1}{2}$ Mile from the Church by *Hals*. The whole Shoal extends S. by W. $1\frac{1}{2}$ Mile and on some Places has only 14 Feet of Water, as the Soundings about it vary but little they afford no Warning, it can therefore only be avoided by observing the Bearings from the Church by *Hals*. The Bottom consists of small Stones or coarse Gravel and Shells interspersed with Parties of dark Sea Weeds which occasions that even at a Distance, when the Weather is not too boisterous, the Water on it is seen bright with dark Spots.

MULDBERG GRUND.

For small Vessels that keep close under shore *Muldborg Grund* may be dangerous having but 7 Feet of Water with large Stones; the Church by *Hals* bears N. $6^{\circ} 30'$ W. from thence, between this Shoal and the Shore there is 12 to 15 Feet of Water.

HURUP - BROE.

Notwithstanding the Road by *Hurup-Broe* seems to be exposed to Easterly Winds still the Anchorage is very safe owing to a particular Kind of Sea-Weeds which grow so high as up to the Surface of the Water, whereby the Violence of the Waves is abated, small Vessels anchor generally

on 13 or 14 Feet of Water, *Hurup* bearing between West and North, larger Ships may ride farther out in proportion to their Draught. On Account of the smooth Water here occassioned by the above mentioned Sea Weeds, small Ships prefer this to most Part of the Stopping Places on this Coast. Coming from the North you steer right for *Als Church* until You get Sight of *Hurup* which are the first Houses near the Shore to the North of *Halsegaards* Wind Mill, which can not be mistaken as it lies quite single, if you come from the South *Als Church* serves also for Direction and may be seen even off *Staunshoved*. In approaching *Als Rev* it is the Rule to keep 3 or 4 Miles off from the Coast not getting less than 3 Fathom of Water until that Church bears W. N. W. when you may stand in upon the Lead, by *Hurup Broe* there are Pilots.

M A R I A G E R F I O R D.

The Inlet called *Mariager Fiord* runs a few Leagues up in the country, two small Towns *Mariager* and *Hobroe* lie by it, the Trade of these is but inconsiderable as the Entrance of the Inlet only admits of Vessels of 7 Feet Draught and is extremety difficult, here are Pilots.

R A N D E R S F I O R D.

Randers which has a pretty considerable Commerce lies about 5 Leagues up in the Country, the Entrance which formerly was very shallow is now by the industrious Inhabitants of the Town cleared and improved

in such a Manner that Ships of about 12 Feet Draught may get within the Mouth of the River to a safe Harbour and loading Place, and Ships of less Draught may go farther up and such as draw no more than 7 Feet proceed up to the Town it self.

In approaching the Entrance *) when you are athward *Bols Reef* you must be careful not to get less than 3 Fathom of Water. There are several remarkable Objects on this Coast among which the Country Seat *Overgaard* which has a Steeple. There are Pilots at *Udbyehøy* who when Signals are made for them will come out, but in Case the Weather should be too tempestuous or they could not come soon enough for a Ship coming right on for an Easterly Wind a *Danish* Flag will be hoisted from the Flag Staff standing by *Udbyehøy* when there is Water enough for a Ship of 10 Feet to pass over the Ground within the Buoys, in Case this is only practicable for Ships of 9 Feet Draught a blue Flag is hoisted, but both together are hoisted when either the Water should be so low or the Swell so Great that it would even be dangerous for Ships of smaller Size to stand in. The best Anchoring place without, is about two Cable's Length N. E. from the first Buoy where there is $3\frac{1}{2}$ Fathom of Water.

The Ground TANGEN.

Whereas the Depth on the Ground *Tangen* is on many places not above 12 Feet and less, even small Ships ought not to venture over it in particular with an Easterly Wind. Between the Ground and the Shore there is no less than $3\frac{1}{2}$ to 4 Fathom and even more, nevertheless you can not anchor every where, the Bottom being so loose that the Ship drags her

*) A View of this Entrance is given on Plate H.

Anchor, the safest Anchorage however is by *Treaae Mölle* but if Easterly Wind should rise too much Swell here, small Vessels may run along the Shore until they find better Shelter by the Ground.

G E R I L D - B U G T.

With westerly Winds You may stop under the Shore in $4\frac{1}{2}$ Fathom of Water, *Gerilds Church* bearing W. N. W. but the Current is strong here and in Case an Easterly Wind should happen to blow of a sudden it would not be easy to get of, it is more safe lying by *Treaae Mölle*; by going round *Staunshoved* you ought not to approach the Coast nearer than one Mile.

G R E N A A E.

Grenaae is but a small and inconsiderable Town as it has no Harbour, Ships that are to load or unload here, are obliged to remain on the Road, where the Anchorage is on $3\frac{1}{2}$ or 4 Fathom; you bring the Church in the Middle between two small Houses, which stand close to the Coast on each Side of a small River, but you must always be ready for weighing in order to get away for an Easterly Wind.

The Mark for avoiding the Ground called *Kalkgrunden* is: not to bring *Fornæs* in one with *Gerild Klint* before you see the Church in *Grenaae* almost close to the above mentioned Houses; farther, coming from the South you ought not to get less than 7 Fathom Soundings

and keep the Point called *Græslöse Banke* or *Jernhatten* on the out-Side of *Havsknude* until the Church in *Grenaae* is hid by the Northern high Land.

S t o p p i n g - P l a c e

by

H A V S K N U D E.

On both Sides of that Reef, which runs about a $\frac{1}{4}$ Mile out from the Point called *Havsknude* a Ship may stop but must be in readtness to weigh directly if the Wind shifts.

D a n g e r o u s S h o a l s.

Running along the Coast here You must be very careful to avoid the Shoal called *Jessens Grund* on the South End of it there is 3 Fathom and on the East Side 2 or $2\frac{1}{2}$ and on the Shoal itself no more than 8 or 9 Feet, the Bottom is Sand with large Stones, the Direction of it by the Length is N. E. by E. and S. W. by W. but there is a clear Passage between this Shoal and the Main.

Upon the Authority of former Charts we have in this new one laid down a Shoal about one Mile off the Point *Jernhatten* it is called *Black.*

Hielm is a small but very high Island it is not adviseable to ap-

proach it without a Pilot on Account of the Shoals, Reefs and Banks about it.

At the End of the Reef called *Öreflakke* is a very good Stopping place during Summer for West and Northerly Winds, and with Easterly Winds you may weigh and take Shelter in the Gulph within.

E B E L T O F T E.

The Bay of *Ebeltofte* is pretty large, in the Offing lies a Bank called *Skade Grund*, on both Sides of which You may pass and anchor within wherever you please but the Bottom is not very good holding Ground neither is there Shelter for Ships during Winter Time; the Town is but inconsiderable.

A A R H U U S.

Aarhuus is a pretty large Town, from whence packet Boats are going every Day to *Callundborg* for the Communication between the Provinces. The Harbour is between two Moles, it admits now only of Vessels to about 7 Féet Draught but will be extended so as to receive Ships of 10 Feet. The Road is good but S. E. Wind raises a troublesome swell.

N O R S M I N D E.

By *Norsminde* is a most excellent good Stopping place and is therefore very much frequented by coasting Vessels in case of contrary Winds, there is no town but only some few Houses.

T h e I s l a n d

of

T H U N Ö E.

The general Passage for all the Ships that go thro' the little *Belt* is between the Islands of *Samsöe* and *Thunöe*. As the Church Tower on *Thunöe* serves as leading Mark on coming both from the North and the South Side, His Majesty has been pleased to order this Tower to be heightened and a Lamp Light placed on the Top, which at present is under Execution and will be lighted in the next Year; there are Pilots on *Thunöe* who are properly to lead Vessels to the Harbours of *Weile* and *Horsens*, *) tho' these are pretty distant from hence, as the passage is very difficult and there was no other convenient place from whence they could attend the Ships at proper time.

*) These two places together with the *Belts*, could not be encompassed in this Chart but will be found on that of the *Sound* and the *Belts*.

The Island

of

SAMSÖE.

On the North Side of *Samsöe* there is a very fine Harbour even for pretty large Ships; though difficult to enter into; but as there is no trading place on it, it is not frequented.

The

Northern Coast of SIAELLAND.

CALLUNDBORG.

Being bound to *Callundborg* you have but to avoid the Reef which runs out from *Revnæs* for which there are no plain Leading Marks on Shore nor can the Lead indicate it, as it is very steep. You may work into the Bay with a contrary Wind observing only to stand in the Beginning closer to the North Side, but afterwards the South Side is the safest, and having got into the Bay you may get Pilots for to bring You up to the Harbour.

S I Æ L L A N D S R E V.

From the long and narrow sandy Point called *Siællands Odde* a Reef by the Name of *Siællands Rev* is extending 7 to 8 Miles, the Leading Mark for passing between that and *Hasteen's Grund* is to bring the Mountain on the Coast of *Jylland* called *Hellesbjerg* in one with the small Island *Hielm*; moreover the Soundings on both Sides of the Reef serve as indication, the Bottom is sandy on the West Side and decreasing when you approach it; the East Side on the Contrary is more stony, none of these You ought to approach nearer than on 8 Fathom and with large Ships not less than upon 10 before you tack, unless you can pass between the Reef and *Hasteens Grund*. On the Reef itself about one Mile from the End of it there lie some large Stones which generally are seen above the surface of the Water and on which the Sea breaks with Easterly Winds.

It ought to be observed that the Currents which are very violent here often set straight on the Reef; there is a swash on it, through which you may pass with a small Ship if you are well acquainted.



H A S T E E N S G R U N D.

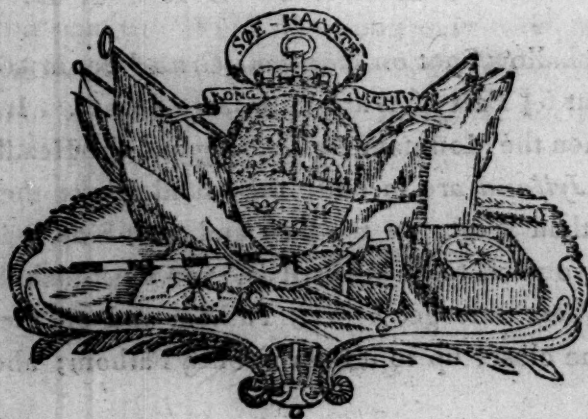
The most shallow Spot on *Hasteens Grund* lies in $56^{\circ} 12' 5S''$ latitude, there is but $6\frac{1}{2}$ Feet of Water with large Stones. It lies exactly in the Direction when the Mountain *Hellesbjerg* and the Headland *Hasselöre* on the Coast of *Jylland* are in one; the Island *Hielm* then bears a little more southerly than West; on the East and west Side it is pretty steep, when you judge yourself to be athward it, you must tack directly as soon as you on the West Side get 7 or 8 Fathom and on the East Side you ought not to come closer up to it than upon 9 Fathom; about 2 Miles on

the West Side you have 13 Fathom Stek Ground; towards the Coast of *Jylland* the Bottom is clear Sand but on approaching *Hasteens Grund* you meet with Stones; as well from the South as from the North Side of the Shallow a Reef runs out, on the End of which is 5 Fathom clear sandy Ground that decreases gently up towards it. By Day you are always sure of seeing Crippings on it.

E n t r a n c e t o I I S E F I O R D .

On the North Side of the Island of *Siælland* there is a large Bay or Gulph called *Iisefjord* on the Borders of which several small Towns are situated such as *Nykiöbing*, *Holbek*, *Fridericksund*, *Roeskilde* and *Friderikswerk*. The Shallowness in the Offing prevents Ships of more than 9 to 10 Feet Draught to enter; there are Pilots.

5 OC 57



Fortoning fra den beste Anker



a, De Nordligste Huuse paa Snekkersteen. b, Helwingöers Kirke. c, Cro

Fortoning af Kullen med den saak



a, a, Hallands Waderöe. b, b, Hafs kull. c, Fijh

Fortoning af Landet mellem



a, Sövrum Kirke i 60 Grader fra Nor

Fortoning af Landet mellem Mor



a, Moruptunge i 23 $\frac{1}{2}$ fra N: ad O: b, Smörstakken i 46 $\frac{1}{2}$ 30' fra N: ad O:
Stafsinge Høy Fortoning af S



strax Norden for Falkenberg

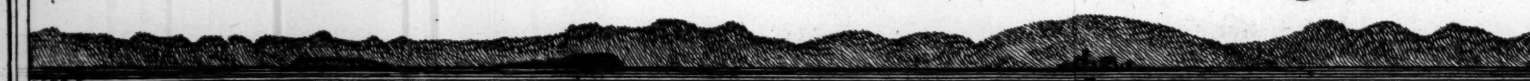


a, Steenvarden paa Toppen af S

Fortoning af den



a, Ringehals i N: O: $\frac{3}{4}$ O: b, i N
= fra Ringehals til



d, Warberg i O: 2 $\frac{1}{2}$ Mil. e, Moruptunge i S: O

Fortoning af den Svenske Kyst



a, Fierhals i N: N: O: $\frac{1}{2}$ O: b, Niddingen i N: O: $\frac{1}{2}$ N: 1 $\frac{1}{2}$ Mil c, Onfala Kirke. d, Hälfs

Ankerplads paa Helsingøers Rehd.



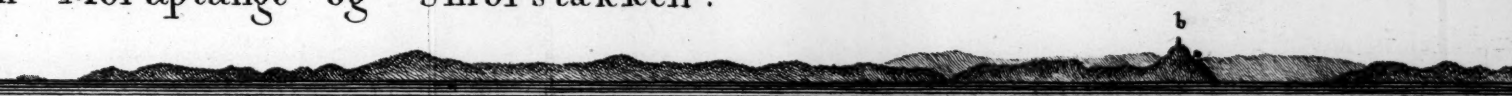
c, Cronborgs højeste Spiir i 6° fra *N*: ad *W*: *d*, Pjnten af den Svenske Kyst.
saakaldte Falske Kull eller Hafskull.



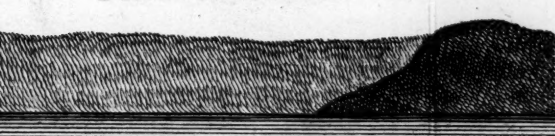
Fjhrtaarnet paa Kullen i *S*: $t: 0: \frac{1}{2} 0: 1 \frac{1}{2}$ Mil.
mellem Tyløe og Halmstad.



Nord om ad Ost 2 Mil efter Gising.
Moruptunge og Smörstakken.



N: ad *O*: Peilede til samme Tid Kullens Fjhrtaarn i 16° fra *S*: ad *W*:
Smörstakken



af Bierget b, et Træ.

Warden paa



Appelvikshøj.

den Svenske Kyst =



i N: O: t: 0: $\frac{1}{2}$ 0: c, *i O: N: O: $\frac{1}{2}$ 0:*

til Moruptunge.



i S: O: t: 0: $\frac{1}{2}$ 0: f, Falkenbergs Kirke i *S: O: t: 0.*

Kyst fra Niddingen til Warberg.



Halsunds Stangen i N: O: e, Ravnøe. *f*, Landet Synden for Warberg Pjnten i *S: O:*

Fortoning af den Svenske Kyst fra



a, Wängöe i N: $\frac{1}{2}$ O: $3\frac{1}{2}$ Mil. b, b, Färlerne. c, Wrangöe. d, Kongen

Fortoning af Kysten udenfor



a, a, Pater Noster Skiærene i N: O: t: N: b, Marstrand i N: O: $\frac{3}{4}$ N: 3. Mil. c, Blåaskullen

= fra Pater Noster Skiærene



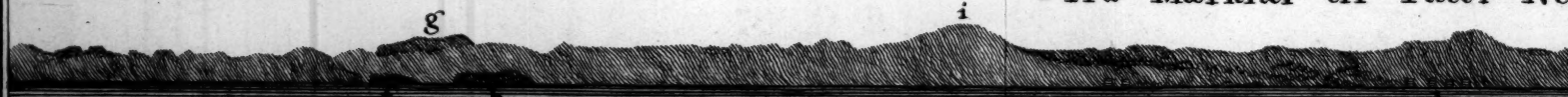
f, i O: $\frac{3}{4}$ S: g, Hönöe. h, i O: S: O: i

Fortoning af den Svenske Kyst



a, Mæskær i N: t: O: b, Boonden. c, i N:

= fra Mæskær til Pater No



f, O: S: O: $\frac{3}{4}$ O. g, Laden. h, Midfkiær. i, Smeden S: O: t: O: k, Skuene paa Kladesholm. l, S:

Tvende Fortoninger af den Iyd



a, Kirken W: $\frac{3}{4}$ N: b, Fjhrtaarnet W: t: N: $1\frac{3}{4}$ Mil.



a, S: N:

Fortoning af Indløbet t



a, Willmofehuus og Teglblanderie. b, b, Muldberget. c, i W: $\frac{3}{4}$ S: 2 Mil. d, Egenre Kloster og Bye. e

Fortoning af Indløbet til



st fra Wingøe til Niddingen.



Kongen. e, Rön. f, Malöen. g, Niddingen i S. O. t. S. $2\frac{1}{4}$ Mil.

udenfor Göthaborg =



ekullen i N. O. $\frac{1}{2}$ O. d, Roröe i N. O. t. O. $\frac{3}{4}$ O. e, Hjippelen i O. N. O. $\frac{1}{2}$ O. $1\frac{1}{2}$ Mil, gunlagtig

Skærene og til Wingøe.



S. O. i, Wingøe i S. O. t. S. $\frac{1}{4}$ S.

Küst med Skærene udenfor, =



i N. N. O. d, i N. N. O. $\frac{1}{2}$ O. e, N. O. $\frac{1}{2}$ O.

ter Noster Skærene.



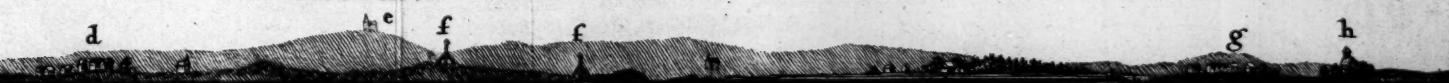
1, S. O. $\frac{1}{2}$ O. m, Marstrand S. O. t. S. n, S. S. O. o, Pater Noster Skærene.

en Tydske Küst ved Skagen.



a, S. W. t. W. $\frac{1}{4}$ W. b, Fjhrtaarnet S. W. t. W. $\frac{3}{4}$ W. $1\frac{1}{2}$ Mil. c, Kirken W. S. W. $\frac{1}{4}$ W. d, W. t. S.

løbet til Lümfjorden.



g Bye. e, Nörd Tranders Kirke. f, f, Wårderne. g, Halo Bye. h, Kirke og Ladegaard. i, Möllen.

løbet til Randersfiord.

